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PROCEEDINGS

OF THE

ZOOLOGICAL SOCIETY OF LONDON.

January 13, 1835.

William Yarrell, Esq., in the Chair.

A specimen was exhibited of the *brush-tailed Kangaroo, Macropus penicillatus*, Gray, which had recently been presented to the Society by Captain Sir Edward W. Parry. Mr. Bennett called the attention of the Meeting to its peculiarities, and remarked on the great hairiness of the tail, and especially on its want of robustness at the base, as indicating probably the type of a new genus, to be removed from among the *Macropi* on account of the diminished power of an organ which is so exceedingly strong among the typical *Kangaroos* as to execute, during the act of slow progression and while resting, the office of a third leg. In connexion with this peculiarity of tail, Mr. Bennett pointed out also a difference in the form of the third, or extreme lateral, incisor, as compared with the corresponding tooth in *Macr. major*, Shaw; *crania* of the two animals being exhibited for that purpose. The third incisor in *Macr. penicillatus* is bilobed, and approaches somewhat to the character of the corresponding tooth in *Macr. Parryi*, Benn.

A note by Sir Edward Parry, which accompanied the specimen, was read. The animal appears to be procurable with difficulty, as this individual was "the only one of the kind ever seen by Sir E. Parry. It was shot among rocks near Liverpool Plains, New South Wales. As several of the same kind were seen together on more than one occasion, they appear to be gregarious. They seemed to prefer the neighbourhood of rocky ground, in which they had holes, to which, when hunted, they retreated. The first intimation received of these animals by Mr. Hall was, that monkeys were to be seen in a particular situation: and the manner in which they jumped about, when he first approached a number of them, left the same impression on his mind. They were so wild that he found it impossible, on his first attempt, to obtain a specimen; and one which he had wounded escaped into its hole. Some months afterwards, however, after remaining on the spot a whole night for the purpose, he succeeded in killing one towards daylight, which is the specimen now presented to the Society."

Mr. George Bennett stated that while in New South Wales he had heard of an animal called *Gúnar* by the natives, and found about the Beran Plains, which was described to him as in some degree resembling a *Kangaroo*, but differing from it in having a bushy tail, and in the form of the head, which was stated to resemble that of the *Hare*. He suggested the probability that the *Gúnar* and the *brush-tailed Kangaroo* might be specifically identical.

Extracts were read from a Letter addressed to the Secretary by M. Lesson, For. Memb. Z.S., and dated Rochefort, December 29, 1834. It was accompanied by the subjoined table of a distribution of the families of the *Acalepha*, Cuv., proposed by the writer.

ACALEPHA.

I. Without a central solid axis.	
A. Body simple, entire.	
1. Symmetrical, terminated at each pole by an opening.	1. BEROIDEÆ.
2. Non-symmetrical: the upper pole disciform or umbrella-shaped, imperforate.	2. MEDUSÆ.
B. Body multiple or aggregated.	
a. Homogeneous.	
3. Composed of two pieces adhering together, and capable of separation from each other.	3. DIPHYDES.
4. Composed of numerous pieces aggregated together.	4. POLYTOMA.
b. Heterogeneous.	
5. Animal furnished with appendages of different kinds.	
* Vesicle small, regular, placed at the summit of a kind of stalk furnished with lateral *ampullæ* and terminal suckers.	5. PHYSSOPHORÆ.
** Vesicle large, irregular, without stalk or *ampullæ*, but having terminal suckers and cirriferous processes.	6. PHYSALIA.
II. With a central cartilaginous axis.	
6. Body simple, with suckers and lateral *tentacula*.	
a. Body irregularly oblong, with a vertical *lamina* on its upper surface.	7. VELELLÆ.
b. Body discoid, flat above.	8. PORPITÆ.

A letter was read, addressed to the Secretary by B. H. Hodgson, Esq., Corr. Memb. Z.S., and dated Nêpal, February 25, 1834. It gave a systematic and technical account of the *Chiru Antelope, Antilope Hodgsonii,* Abel, in conformity with the latest and most complete information possessed by the writer, and communicated by him to the Society at its Meeting on July 22, 1834. ('Proceedings', Part II p. 80.)

January 27, 1835.

Lieut.-Col. Sykes in the Chair.

Extracts were read from a Letter addressed to the Secretary by J. B. Harvey, Esq., Corr. Memb. Z.S., and dated Teignmouth, January 22, 1835. It was accompanied by a large collection of *Shells* from the south coast of Devonshire, and by specimens of *Echinodermata* and *Crustacea* from the same coast, which the writer presented to the Society. It was also accompanied by drawings of a large specimen of *Caryophyllia Smithii,* now living in Mr. Harvey's possession: the drawings represent the animal shortly after feeding, when it is expanded sufficiently to contain the food, extending rather above the level of the coral and raised in the middle; and also as it appears three or four hours after having been fed, when it expands itself to the fullest extent, and ejects, in the form of *flocculi,* the crude undigested matter.

A Note was read from the Secretary of the United Service Museum, accompanying several skins of *Birds* transmitted for exhibition by direction of the Ornithological Sub-Committee of that Museum. The specimens were brought under the notice of the Meeting.

The exhibition was resumed of the *Shells* collected by Mr. Cuming on the western coast of South America and among the Islands of the South Pacific Ocean. Those brought before the present Meeting were accompanied by characters by Mr. G. B. Sowerby, and comprised the following species:

Genus HIPPONYX.

"Of this remarkable genus Mr. Cuming brought home three species in such perfect condition, as respects the shell, as to possess both valves *in situ.* The two specimens which exhibit these three species appear to me so interesting that I shall venture upon a particular description of them. The first, of the species which I have named *Hipp. Mitrula,* is a group of about twenty individuals, of various sizes, from $\frac{1}{30}$ to $\frac{1}{2}$ an inch in diameter, adhering by their lower or flat valves to an irregular piece of stone; the attached valves as usual, are conformed to the irregularities of the surface of the stone, and when they have been at first attached to a cavity, they are hollow: the upper valves are also somewhat modified in form by the same cause, so as to be more or less regular according as the lower valve has adhered to a more or less smooth and even part of the stone. The attached valves have not attained a great degree of thickness, consequently I do not suppose any one of the individuals to be of advanced age; there are, however, several which can only just have occupied their positions on the stone: these are not above $\frac{1}{40}$ part of an inch in diameter, and they show the perfect point of the upper valve, somewhat convoluted and inclined toward the anterior edge. Other individuals, which are placed in a cavity of the stone, are very regular in shape, but have their ridges slightly curved upwards in conformity with the nearly regular vesicular shape of the cavity. The edges of the *lamellæ* near the outer margin in most of the specimens are furnished with a thin fringe of *epidermis*, but the very young shells are destitute of this. An individual of *Hipp. subrufa* is observable among the group of *Hipp. Mitrula*: its *apex* is distinctly spiral and its *epidermis* hairy.

"The second specimen belongs to the species which I have named *Hipp. barbata*. This is a very complete specimen, and reminds me of the beautiful fossil species *Hipp. Cornucopiæ*; it is a small individual, having its attached valve very much thickened and adhering to a much larger one of the same species; its edge is much elevated and it is deeply concave; the free valve is rather smaller, and conical, and its edge is surrounded by the elevated edge of the attached valve."—G. B. S.

Hipponyx Mitrula. (Pileopsis Mitrula, *Lam.* Patella Mitrula, *Auct.*) *Hipp. testâ albâ, subconicâ, concentricè lamellosâ, lamellis subconfertis, radiatim striatis, epidermide pilosis.*

Hab. ad Insulam Peruvianam Lobos dictam.

Found upon stones, in seventeen fathoms' water, among coarse sand.—G. B. S.

Hipponyx subrufa. (Pileopsis subrufus, *Lam.* Patella subrufa, *Dillw.*) *Hipp. testâ aurantiaco-rufescente, subconicâ, concentricè sulcatâ, radiatim striatâ, striis profundis, marginibus sulcorum crenulatis; vertice posticè inclinato.*

Hab. cum præcedente.—G. B. S.

Hipponyx radiata, Gray. *Hipp. testâ subdepresso-conicâ, fulvescente, radiatim costatâ, costis crebris, imbricato-squamosis, vertice postico.*

Hab. ad Panamam et ad Insulas Gallapagos.

Found attached to rocks alive, and the upper valves loose on the sands.—G. B. S.

Hipponyx barbata. *Hipp. testâ pallidè fulvâ, subelevato-conicâ, radiatim confertim striatâ; margine ventrali producto; epidermide piloso-barbatâ; margine interno crenulato.*

Hab. ad Insulas Maris Pacifici.

Found on the coral reefs around Toobouai, one of the Society Islands.—G. B. S.

Genus MOURETIA.

MOURETIA PERUVIANA. *Mour. testâ subdepresso-conicâ, albâ, radiatim striatâ; vertice centrali; epidermide corneâ, tenui.*
Hab. ad oras Peruviæ. (Cobija.)
Found on rocks at low water.—G. B. S.

MOURETIA STELLATA. *Mour. testâ depressâ, squamiformi, albâ, radiatim costatâ; margine dentato.*
Hab. ad oras Americæ Centralis. (Real Llejos.)
Found on rocks at low water.—G. B. S.

MOURETIA RETICULATA. *Mour. testâ subdepresso-conicâ, subrotundatâ, supernè reticulatâ, albâ.*
Hab. ad Valparaiso.
Found attached to shells in deep water, from forty-five to ninety fathoms.—G. B. S.

Genus SIPHONARIA.

SIPHONARIA COSTATA. *Siph. testâ depressâ, fusco-nigricante, costis albicantibus, radiantibus, supernè obtusis; margine sinuoso long.* 1·35, *lat.* 1·05 *poll.*
Hab. ad oras Americæ Centralis. (Guacomayo.)
On rocks in exposed situations at low water.—G. B. S.

SIPHONARIA RADIATA. *Siph. testâ subdepresso-conicâ, fusco-nigricante, costis albicantibus, radiantibus; margine crenato: long.* 0·9, *lat.* 0·75 *poll.*
Hab. ad littora Occidentalia Africæ. (Gambia.)
This differs from *Siph. costata* rather by its form than by any other character; this being only a slightly depressed cone, while the last is altogether very flat.—G. B. S.

SIPHONARIA LINEOLATA. *Siph. testâ obliquè conicâ, fuscâ, lineolis numerosis, albidis, radiantibus: long.* 0·65, *lat.* 0·45 *poll.*
Hab. ad Paytam Peruviæ.
Variat *testâ majore, lineis albidis minùs conspicuis: long.* 1·05, *lat.* 0·8 *poll.*
Hab. ad Insulam Chiloe Chilensium.
On rocks in exposed situations.—G. B. S.

SIPHONARIA PICA. *Siph. testâ subobliquè conicâ, nigricante, radiatim costatâ et striatâ, costis albidis; margine crenato, internè albo maculato: long.* 0·8, *lat.* 0·7 *poll.*
Hab. ad Acapulco.
On rocks in exposed situations.—G. B. S.

SIPHONARIA SUBRUGOSA. *Siph. testâ subdepresso-conicâ, fuscescente, extùs albicante, radiatim costato-striatâ, rugulosâ; vertice subcentrali, nigro: long.* 0·8, *lat.* 0·6 *poll.*

Hab. ad oras Brasiliæ.

Found on rocks in exposed situations.—G. B. S.

Siphonaria læviuscula. *Siph. testâ subdepresso-conicâ, subobliquâ, extùs pallidâ, radiatim albido-lineatâ; intùs fuscescente, margine albicante: long.* 0·9, *lat.* 0·75 *poll.*

Hab. ad Valparaiso.

On rocks in sheltered places.—G. B. S.

Siphonaria maura. *Siph. testâ parvâ, depressâ, subovali, intùs nigrâ, margine albido articulato; extùs fuscescente, albido-radiatâ: long.* 0·55, *lat.* 0·45 *poll.*

Hab. ad Panamam.

Found on rocks.—G. B. S.

Mr. Owen read some Notes of a Dissection of a *long-tailed Dasyurus, Dasyurus macrourus,* Geoff., which recently died at the Society's Gardens.

The subject was a female, adult, weighing 3lbs. 8½ oz., and measuring from the extremity of the jaws to the root of the tail 1 foot 4 inches, the length of the tail being 1 foot 2½ inches, and that of the head 4 inches. The vaginal orifice and the *anus* were situated within a common outlet, just below the root of the tail. There were six nipples, arranged three on either side, describing three quarters of a circle, and seated within a slight fold of integument, of a corresponding shape, 3 inches anterior to the cloacal outlet.

The external oblique abdominal muscle terminated below in a strong tendon, which was folded inwards, like Poupart's ligament The abdominal ring consisted of a slit, bounded externally by Poupart's ligament, and internally by the marsupial bone: and Mr. Owen stated it to be his opinion that the marsupial bones are essentially ossifications of the tendons of the external abdominal muscle which constitute the internal or mesial pillars or boundaries of the abdominal rings. The *transversalis abdominis* and internal oblique muscle were distinct.

The stomach was simple, 4½ inches in length and 8 inches in its greatest circumference. It was shaped as in the genus *Didelphis,* and had the *cardia* a little nearer to the *pylorus* than to the left extremity. It was principally nourished by the coronary arteries; the gastro-epiploics being very small and running along the posterior side of the stomach, and not along the greater curvature. The terminal part of the *œsophagus* was furnished with longitudinal *rugæ.* The commencement of the *duodenum,* to the extent of half an inch, was occupied by a zone of glands.

The *omentum* was of small size, extending from the stomach to the spleen, but not covering the intestines: it is possible that as these are short and wide, they do not require such a covering to facilitate their motion. It contained a little fat.

The mesentery was one continuous duplicature of the *peritonæum,* extending from the *pylorus* to the end of the *colon,* as in the *Rep-*

tilia. The vessels anastomose to form but one series of arches. The mesenteric glands were oblong, situated close to the *pancreas*, and exhibited, on being cut into, a dark colour.

The length of the intestines was 5 feet; their greatest circumference 2¼ inches. They were destitute of *cæcum* and of any corresponding valve. Their diameter was nearly uniform throughout their whole length.

The anal glands, two in number, were of a spherical form, and half an inch in diameter. Their secretion was dark-coloured. A minute duct conveys it from each gland to the verge of the cloacal opening, which is a little prominent, and is surrounded by a strong *sphincter*.

The liver occupied the situation usual in the *Mammalia*. Its weight was 3 ounces 8½ drachms. It was tripartite, if the cystic lobe (which is deeply cleft) be considered as one division. The right division was partially cleft into three lobes: the cystic division was deeply cleft, with the gall-bladder loosely attached at the bottom of the fissure, not perforating the substance of the lobes as in *Didelphis*. The left division gave off the Spigelian *appendix*. All the lobes are irregularly notched. The abdominal *vena cava* perforated the liver. The gall-bladder was of a pyriform figure, pendent at its *apex* to two small folds of *peritonæum* which attach it to the liver. The *ductus communis* entered the *duodenum* 1 inch from the *pylorus*.

The *pancreas* was a broad, flattened, branched gland, with a process given off at the splenic end from the main body, so as to produce, in a transverse section, the figure of the letter T. The pancreatic duct joined the biliary just at its termination. The spleen was situated sinistrad and dorsad of the stomach: its weight was 6½ drachms. Its form was compressed, trihedral and T-shaped, as in the *Kangaroo*, but its lesser process was not so long as in that animal. Mr. Owen considers this form as indicative of a relation, hitherto unsuspected, between the *spleen* and the *pancreas*, the small process of the former corresponding to that of the latter.

The lungs were 3¼ inches in length; the right measured 1¾ and the left 1⅜ in breadth: their weight was 8¾ drachms. The right consisted of four lobes; the left but of one lobe. The *azygos* lobe was connected to the right lung by the large branches of blood- and air-vessels only, and not by continuity of substance.

The heart, measuring 1 inch and 10 lines in length and 1 inch and 3 lines in breadth, and weighing 9½ drachms, was situated near the middle of the chest. Its form was oblong, pointed at the *apex*. The right auricle rose high above the left. Both auricles had smooth short *appendices*. The *venæ cavæ* were two superior and one inferior. The primary branches of the *aorta* were two, the *arteria innominata* dividing into the right subclavian and the common trunk of the carotids.

The rings of the *trachea* were twenty-three in number and incomplete behind. The first of them rose convexly into the space below the cricoid cartilage. The *larynx* was protected by a large semicylindrical *epiglottis*, slighty emarginate at its *apex*, which extended into the posterior *nares* above the soft palate, as in other *Marsupiata*. There were two large cuneiform cartilages. There was also a small *sacculus* beneath the *epiglottis*.

The soft palate terminated in a thin arched margin. The tonsils were oblong. The parotid glands were of moderate size and branched, and there was on each of them a small conglobated gland. The submaxillary glands were flattened, of the size of nutmegs, and situated in front of the neck. There was no sublingual gland. A thick row of labial glands extended along the lower lip. The tongue measured 3 inches in length, and had, at the distance of 1 inch from the *epiglottis*, three fossulate *papillæ*. The thyroid glands were separate, each of them being of the size of a horse-bean.

The supra-renal glands were oblong, of the size of horse-beans, and placed anterior to the kidneys: on a section they exhibited a light-coloured exterior layer, then a very dark-coloured substance, and internally became again light-coloured. The kidneys were seated high in the lumbar region, the right being half an inch higher than the left. Each had one pointed *papilla*. The weight of both was 13 drachms.

The ovaries, 3 lines in length and half a line in breadth, were of a flattened oval shape. In the right there was an ovisac coming forward

There were two *masseter* muscles. The *flexor longus digitorum pedis*, or its analogue, was inserted into the *fibula*, and sent no tendon to the toes, the tendons to them being derived from the muscle analogous to the *flexor longus pollicis pedis*: it is consequently a rotator of the *fibula*, and is described by Home as a peculiar muscle in the *Koala*.

The morbid appearances observed consisted of small tubercles in the lungs and small cysts in the liver. There was a general increased vascularity over the alimentary canal; and the intestines contained bits of straw and bloody mucus.

Mr. Owen also read his Notes on the Anatomy of the *red-backed Pelican* of Dr. Latham, *Pelecanus rufescens*, Gmel.

"The following notes were made on the dissection of one of the smaller-sized grey *Pelicans*, which died at the Society's Gardens in April 1832. They are now brought forward in order that they may be compared with the results of the dissection of the one which took place at its Museum a few days ago.

"The *Pelican* which I dissected measured 3 feet 7 inches from the extremity of the beak to the vent, and 10½ inches from the extremity of the upper mandible to the nostrils. These are almost concealed slits in the lateral grooves of the upper mandible, just anterior to the skin of the head. They will barely admit the flat end of a probe; and lead almost vertically to the internal apertures of the nasal cavity. The air-cells in the *Pelican*, as in the nearly allied *Bird* the *Gannet*, *Sula Bassana*, Temm., are remarkably extended and diffused over the body: the whole cellular tissue, even to the tips of the wings and the end of the fleshy part of the legs, can be blown up from the *trachea*.

"The extent to which the skeleton of the *Pelican* is permeated by air has been particularly noted by Mr. Hunter in his celebrated Paper on the air-cells of Birds, in which he throws out a suggestion that it may assist the birds of this species in carrying heavy loads in their large *fauces*. This supposed relation of extended air-cells to a largely developed beak is borne out in the case of the *Hornbill*, in which every bone of the skeleton is permeated by air, but is apparently contradicted by the *Gannet*: I say apparently, because, although the *rami* of the lower jaw do not, in this species, afford suspension to a capacious reservoir as in the *Pelican*, yet the bird may occasionally have to bear away a considerable load as, for instance, in a large fish seized by its mandibles, and a previous accumulation in its dilatable *æsophagus*.

"Mr. Hunter, it may be remembered, was doubtful on the first publication of his Paper as to the source from which the mandibles derived their gaseous contents: not that he was ignorant of the air-holes in the bones, as he is careful to tell us in the reprint of the Memoir in the 'Animal Œconomy', where he states that the lower jaw of the "*Pelican* is furnished with air, which is supplied by means of the Eustachian tube."

"To ascertain the correctness of this description I sawed across the left *ramus* of the lower jaw; but on blowing into the end of the part attached to the head, I found that the air did not escape as I had expected by the Eustachian tube, (the orifice of which is a slit, situated on the roof of the mouth, one inch behind the posterior or internal *nares*,) but filled, first the air-cells under the throat, and then, passing down the neck, raised the large air-cell above the *furculum*. On dissection I found that the air passed into the lower mandible immediately from an air-cell surrounding the articulation between the jaw and *os quadratum*; which received its air from the lungs by means of the cells passing along the neck and throat, &c. The authority of Mr. Hunter ought not to be set aside by the result of a single experiment; and the possibility of accidental rupture may be urged against the above observation; but it is at all events worthy of being recorded, and should be repeated when opportunity occurs, with the addition of blowing into the Eustachian tube, which I omitted to do.

"There is little to be added to the accounts already given in the works of Cuvier, and of Professor Tiedemann and Carus, of the digestive organs of the *Pelican*. The weak or thin-coated stomach, small *cæca*, and short intestines bespeak its animal diet, and the uniformly capacious *æsóphagus*, as well as the superadded faucial bag, may be regarded as pointing to the piscivorous habits of this singular species. It is more difficult to assign the use of the globular cavity interposed between the gizzard and the *duodenum*, which the *Pelican* has in common with some of the piscivorous *Grallæ*, viz. those of the genus *Ardea*. In them the pyloric cavity is very small, but in the *Pelican* it is fully as large in proportion as in the *Crocodiles*, which alone possess it among *Reptiles*. In the *Pelican* here described the pyloric cavity measured 1½ inch in diameter, communicated by a small transverse aperture with the gizzard, and by an opposite one, of smaller size and obliquely placed, with the *duodenum*. Its lining membrane is villous and vascular, and was in this instance tinged with bile, which must have entered by regurgitation, as none of the biliary ducts enter here.

"The *œsophagus* is continued into the *proventriculus* without any marked constriction, and the latter passes insensibly into the part analogous to the gizzard, which is comparatively of small size. The gastric glands are simple elongated follicles, closely compacted together, and extended over nearly the whole *proventriculus*.

"The *duodenum*, after making the usual fold, ascends on the right of the stomach; the intestine is then disposed in three or four coils upon a central mesentery, and then is strung on the edge of the mesentery in long and deep folds, from the last of which the *ileum* passes upwards behind the stomach, and then descends to join the *rectum*. At the point of junction were placed the *cæca*, each 1½ inch in length. The *rectum* is very short, and opens obliquely into a large urinary receptacle; as large, proportionately, as in the *Ostrich*. Before commencing the dissection, a quantity of very fluid urine, of a whitish colour and containing whitish flakes, escaped on pressure being made upon the sides of the *cloaca*.

"The *liver* is bilobed, the right lobe much larger than the left, in which the edges were rounded off. There is a gall-bladder, which contained bile of a yellow colour, not green as in *Birds* generally. The cystic, biliary, and hepatic ducts terminated in the end of the *duodenum*, close to which opened the duct of the *pancreas*. The latter gland was of a less elongated form than usual, being of a rounded figure, and not descending far into the fold of the *duodenum*. The spleen was placed behind the stomach, in length 1 inch, in breadth half an inch.

"The kidneys were of large size, being 4 inches long, 2 deep, and 1½ wide, and, which is very unusual in *Birds*, the right kidney was half an inch higher than the left. Many of the small superficial branches of the ramified ureter which characterizes the kidneys of the oviparous animals were beautifully conspicuous from their white opake contents. The supra-renal glands were of a light yellow colour, and of a rough or granular pulpy texture; the right adhered closely to the *vena cava*, the left as closely to the ovary, which seemed to be developed partly from the gland and partly from the coats of the left femoral vein. The largest *ova* were nearly of the size of peppercorns and about twenty in number: there were innumerable smaller ones. The oviduct was narrow at its commencement, but gradually attained a diameter of about 4 lines; it passed along the anterior part of the left kidney, adhering thereto by its peritoneal ligament.

"As the *Pelican* belongs to that group of *Natatores*, the *Totipalmes* of Cuvier, which contains species approximating most closely to the *Raptorial Birds*, and which are almost the only *Birds* of this order, as Cuvier observes, (Règne An., nouv. ed., i. p. 561,) that perch, I did not fail to try the common experiment suggested by Borelli's observations on the effect which bending the leg- and ancle-joints might have upon the toes: the latter, however, exhibited no corresponding inflection. In perfect agreement with this is the observation that the *Pelicans* do not perch when they go to rest."

February 10, 1835.

The Rev. John Barlow in the Chair.

A Letter was read, addressed to the Secretary by W. H. Rudston Read, Esq., giving an account of the habits of the *Hyrax Capensis*, Pall., as observed at the Cape of Good Hope, and also during a voyage thence to England in a specimen brought home by the Rev. Mr. Hennah of H. M. S. Isis, which was presented to the Society after its death by Mr. Read.

"The *Hyrax Capensis*," Mr. Read states, "is found at the Cape of Good Hope inhabiting the hollows and crevices of rocks, both on the summits and sides of hills, as well as near the sea-shore, even a little above high-water mark. It appears to live in families, and in its wild state is remarkably shy. In winter it is fond of coming out of its hole and sunning itself on the lee side of a rock, and in summer of enjoying the breeze on the top; but in both instances, as well as when it feeds, a sentinel is on the look-out (generally an old male), which gives notice, usually by a shrill prolonged cry, of the approach of danger, or even the least movement of any suspicious object. It lives on the young shoots of shrubs, the tops of flowers, herbs and grass, particularly of all those which are aromatic; which occasions the necessity of paunching the animal as soon as killed, in order to make it fit for eating. The stomachs of those shot by Mr. Hennah were always much distended with food scarcely masticated. In the flavour of its flesh it is very like a rabbit. A friend of mine kept two young ones alive for some time, which became very tame: they would find him out when lying on the sofa or in bed (for they were suffered to run about the house), and climbing up, shelter themselves on his breast within his waistcoat, or creep under the bedclothes at his back, and lying quiet enjoy the warmth. The one brought home by Mr. Hennah, when allowed to run unconfined about the room, was inclined to be sociable; but was restless and inquisitive, climbing up and examining every person or thing in the cabin, and startling at any noise, which caused it instantly to run and hide itself. But from confinement it became savage and snarling, and tried to bite when anything was put near its cage. Both wild and in restraint it is remarkably clean in its habits, always frequenting and depositing its dung in one place. From its faintly crying in its sleep we may conclude that it dreams. I have also heard it chewing its food by night, when everything has been quiet, and after going into its sleeping apartment. In its food it was pleased with variety, eating first a few leaves of one plant and then of another, and greedily licking salt when given to it. In its passage home its food was Indian corn bruised, bread, raw potato, and onion, with a small quantity of water, which in drinking it partly lapped and partly sucked up. It was very sensible of cold; for when a candle was placed near the bars of its cage, it readily acknowledged the little warmth given out by turning its side and sitting still to receive the full benefit of the rays of heat. I am inclined to think that the female does not produce more than two young ones at a time, from having observed in several instances but two following the old ones. Its name at the Cape is the *Dasse*, which is, I believe, the Dutch for a badger."

Mr. Martin's Notes of the dissection of the specimen of *Hyrax Capensis*, presented to the Society by Mr. Rudston Read, were then read.

"The dissection of the *Hyrax* by Mr. Owen ('Proceedings of the Committee of Science, &c.', Part II. p. 202.) is to be regarded as a confirmation of the anatomical details of this animal as given by Pallas, while at the same time it communicates several additional facts of great value. The present notes give nothing absolutely new; but may be of use as substantiating previous observations with regard to some very remarkable points of structure.

"The animal in question was young and of the male sex: its total length was 1 foot 4 inches, that of the head being 3¼ inches. On removing the skin, the *panniculus carnosus* was observed to be very strong, especially about the shoulders; and on opening the body, the smallness of the volume of the chest compared with that of the *abdomen* was very striking. The abdominal *viscera* presented themselves in the following order. The liver barely advanced from the right hypochondriac region as far as the epigastric, its left portion covering the cardiac portion of the stomach. Below the liver and to its left the stomach was seated, and below this were the *cæca*, of large dimensions, covering the small intestines, over the whole of which was spread an extensive *omentum*, arising from the great curvature of the stomach.

"The stomach measured in length about 4 inches, and was contracted in the middle: a fleshy sphincter of great thickness closed the pyloric orifice, and was distinctly to be felt. On inverting the stomach, with a view to preserve it thus in spirits, the extent of the cuticular lining of the cardiac portion was found to be 2¼ inches: it was irregularly corrugated, and terminated abruptly. Near its edge, towards the great curve of the stomach, were three or four open glands with orifices capable of admitting the tip of a quill. The pyloric portion was lined with the usual villous membrane.

"The liver consisted of four lobes and a *lobulus Spigelii*: it was healthy. There was no gall-bladder; but a biliary duct of 1¼ inch in length was found to enter the *duodenum* half an inch below the *pylorus*: the origin of this duct is on the inner aspect of the liver at its base, a separate duct emerging from each lobe to form it by their mutual union.

" The small intestines were not much thicker than a quill for a considerable distance, but gradually increased in circumference: their length was 5 feet 7 inches, and consequently more than a foot greater than the measurement given by Mr. Owen. On their inner coat were observed the little *sacculi* noticed by Mr. Owen, as well as the remarkable *villi*, which are thickly set. The breadth of the mesentery was about 1½ inch. The first or true *cæcum* was contracted into folds by three longitudinal bands, and so made trifid at the extremity: its length was about 2¼ inches, its circumference 9. The entrance of the small intestine was succeeded by a sacculated portion (the bands of which were continued from the *cæcum*) contorted spirally, beyond which the intestine, abruptly turning and becoming at once smaller, assumed a sigmoid flexure, gradually enlarging as it proceeded till it merged into two cæcal appendages, of a conical figure with an enlarged base and a vermiform termination. The distance between the first *cæcum* and the base of these appendages was found to be 1 foot 7 inches. Below these cæcal appendages the large intestine measured 5¼ inches in circumference; it, however, gradually but rapidly diminished in size. From this part to its termination the large intestine measured 2 feet 7 inches.

" The *pancreas* was small, irregular, and entirely embraced by the first fold of the *duodenum*: its secretion enters the intestine by two ducts, one terminating along with the biliary duct, the other ¾ths of an inch lower down.

" The spleen was broad and somewhat hatchet-shaped, having a projecting narrow slip from a semilunar base: its length was 2 inches, its breadth 1 inch.

" The heart was bifid at the *apex*; its length 1½ inch, and its breadth 1¼. The *larynx* was small; and the *trachea* consisted of 36 rings. The *æsophagus* was smooth. The thyroid glands were small and oval, and ¼ inch long. The tongue was 2¼ inches in length, smooth, with an elevated projection in the middle, and an obscure furrow running down it, from which diverged transversely several arched depressions. The palate was deeply furrowed with alternate transverse ridges and depressions on each side of a middle line, the ridges on one side corresponding to the depressions on the other.

" The kidneys were flattened; in length they measured 1¾ inch, in breadth ¾: the *tubuli uriniferi* converged into one large conical *papilla*. The ureters entered the *fundus* of the bladder, not on its dorsal side, (for it lay flat and empty,) but laterally on the edge, piercing the bladder obliquely, as described by Mr. Owen. The supra-renal glands were small greyish bodies, about the size of a pea. The *testes*, the *vesiculæ seminales*, the double prostate gland, and the *penis* were as described by Mr. Owen.

" The *sternum* consisted of six distinct osseous pieces, independent of the xiphoid cartilage, which was shaped like a spade: its length was 2¼ inches exclusive of the cartilage. The true ribs were seven in number on each side, and the false ribs fourteen. The cervical *vertebræ* were seven, the dorsal twenty, the lumbar nine, the sacral *vertebræ* (immediately united to the iliac bones) two, and the coccygeal ten, making the total number of *vertebræ* forty-eight. The measurement from the end of the *sternum* to the *ossa pubis*, the animal lying stretched in an easy posture, was 7 inches: the length of the portion of the vertebral column occupied by the heads of the true ribs, 1½ inch; and that of the portion of the vertebral column occupied by false ribs, 3¼ inches."

Preparations were exhibited of the *cæcum*, of the urinary bladder, and of other *viscera*, in illustration of the foregoing notes.

The following Notes by Mr. Martin, of the dissection of a *red-backed Pelican*, *Pelecanus rufescens*, Gmel., which recently died at the Society's Gardens, were also read. They refer to the male bird of a pair, the female of which was examined in 1832 by Mr. Owen, whose notes of the dissection were read at the last Meeting.

"The bird was a male, and had been for many years in the Menagerie.

"On removing the skin, a wide space occupied by cellular tissue distended with air, was found to intervene between it and the muscles. This tissue was thin, and subdivided irregularly into numerous cells communicating with each other. Beneath the great pectoral muscle, which was very extensive, there was also a large air-cell, but undivided.

"The osseous structure was light and thin, and the bones of the extremities were remarkable for the extent of their internal cavities and the thinness of their external walls. The *os furcatum* was largely spread, and firmly soldered to the keel of the *sternum*, keeping the shoulders widely apart. The clavicles, or what are regarded as the analogues of the coracoid processes in *Mammalia*, were large, and broadly expanded at their point of union with the *sternum*. The *sternum* was short in proportion to its breadth, measuring 4½ inches longitudinally, and the same across, in a straight line, that is, not following the concavity of its inner surface: its keel was comparatively but little developed; it is thrown forwards, however, as far as possible, and projects in a point where it is ossified to the *os furcatum*. Its greatest depth is 1 inch 2 lines.

"On exposing the *viscera* they were found to occupy a truly abdominal situation, being placed in a small compass and as far backwards as possible. The *æsophagus* passed on for a considerable distance internally, before entering the *proventriculus*.

"The inferior *larynx* was destitute of muscles: the bone of divarication was strong and well defined.

"The liver consisted of two lobes, a large and a small one, united by a broad flat process ¾ths of an inch in length. The large lobe measured 2¾ inches in length and 2 in breadth; the thickness of its substance being 1 inch. The small lobe was 1¼ inch long and ¾ broad.

"The *pancreas* consisted of two lobes united by an intervening slip or narrow portion, through which passed an hepatic duct running from the liver to the intestine.

"The biliary and hepatic ducts entered the intestine a foot below the stomach (gizzard) as follows:

1st, Hepatic duct;
2nd, Pancreatic duct;
3rd, Cystic duct.

"The intestines were thin and worm-like, their mean diameter being ¼th of an inch. Their total length was 8 feet.

"The *vena portæ* ran close to the *pancreas*, and was dilated into a large sinus before entering the liver.

"The lining membrane of the gullet was thrown into longitudinal *plicæ* throughout its whole length, but they became larger and less numerous towards the lower part, and the membrane itself increased in toughness and density as it approached the *proventriculus*. The muscular tunics consisted of an internal longitudinal and external circular layer of fibres; these fibres on the pouch were very fine and delicate, but became stronger and more distinct as the gullet proceeded from this extensible portion.

"The appearance and shape of the *proventriculus* were very remarkable; instead of its being a gradual dilatation of the gullet, it commenced abruptly, and its *parietes* were firm and muscular, insomuch that it might readily have been mistaken at first for a gizzard. Its length, including that of the gizzard (which forms with it a common cavity), was 5 inches, and its circumference 4. The internal membrane was puckered into longitudinal *rugæ*, and was studded with closely set glands of the size of large pin-heads. The longitudinal muscular fibres were remarkably strong, and a muscular slip proceeding obliquely from the side of the gizzard attached the pyloric enlargement to it.

"The pyloric enlargement was about the size of a common garden-bean. A passage ⁴⁄₈ths of an inch in circumference and ⅜ths long, turning up abruptly, led to it from the stomach. The lining membrane of this passage was thrown into longitudinal folds. The lining membrane of the pyloric cavity itself was thin, and not at all coriaceous, and the muscular tunic fine. A valvular fold encircled the opening into the succeeding portion of the *pylorus*.

"The *testes* were as large as peas, or rather larger, white and oval.

"The cervical *vertebræ* were 15 in number.

With reference to the bony union of the *os furcatum* to the *sternum* observed in this *Pelican*, Mr. Martin remarks that "in the *Adjutant*, *Ciconia Argala*, Vig., though the keel of the *sternum* is much more extensive, deep, and strong, the *os furcatum* much resembles that of the *Pelican*, and is in like manner ossified to its anterior *apex*. In the *common Heron*, *Ardea cinerea*, Linn., the *os furcatum* is feeble, but is also united by bone to the *apex* of the keel of the *sternum*: at its point of union a projection or short process is directed upwards; the keel of the *sternum* is here very ample. These are birds not so much of rapid as of untiring powers of flight, which, unlike that of the impetuous *Falcon*, is sweeping and majestic. In the *Falconidæ* the *os furcatum*, though very strong, does not at all approach to the form of a triangle, as in the birds alluded to, but describes a figure not unlike that of a horse-shoe, and a considerable space intervenes between it and the keel of the *sternum*."

A Paper was read, entitled, "Characters and Descriptions of a new Genus of the Family *Melolonthidæ*: by John Curtis, Esq., F.L.S., &c."

In a collection of *Insects* recently received by the author from Lima is contained a beautiful series of the one constituting the type of his proposed new genus

ANCISTROSOMA.

Antennæ capite breviores.

Clypeus, in mare præsertim, emarginatus.

Thorax acutè marginatus, hexagonus; dente brevi in baseos medio armatus.

Pedes longissimi, robusti.

The stoutness of its legs and the sharp lateral edges of its *thorax* distinguish *Ancistrosoma* from all the neighbouring genera: the male is further characterized by an acute, rather long, and slightly curved spine near the base of the *abdomen* beneath. Its natural situation is probably between *Diphucephala*, Dej., the males of which have a bilobed *clypeus*, and *Macrodactylus*, Latr., which is very similar to it in habit, and has also very long legs; but these in *Macrodactylus* are slender, while in *Ancistrosoma* they are robust. Neither *Diphucephala* nor *Macrodactylus* possesses the little tooth at the base of the *thorax* lapping over the *scutellum*, a structure which is, however, met with in *Ceraspis* as well as in *Ancistrosoma*; but in *Ceraspis*, independently of the other differential characters, the *antennæ* and club are long.

ANCISTROSOMA KLUGII. *Anc. ferrugineum, suprà piceo-nigrum; thoracis margine elytrorumque strigis sex albidis.*

Long. maris 12 lin.; fœminæ plerumque minor.

Hab. in *Mimosæ* floribus apud Huanuco prope Lima, Peruviæ.

Of the three streaks on each of the *elytra*, the sutural one does not reach so far as the base, the second extends neither to the base nor to the tip, and the outer one is still shorter: they consist of broad punctured furrows, white with short hairs.

The cocoon of the *pupa* is ovate, hard, and in texture somewhat like that of *Trichiosoma Lucorum*, Leach; its *operculum* is semiorbicular, with a broad hinge and narrow rim: the shell of the *pupa* is similar to that of other *Melolonthidæ*.

Mr. Curtis describes in great detail the several parts of this *In-*

sect, and illustrates them by an extensive series of drawings, which were exhibited; as were also specimens of the *Insect* itself.

Mr. Curtis also communicated a Paper "On a species of *Moth* found inhabiting the *Galls* of a Plant, near Monte Video." The galls in question were collected by Mr. Earle (who accompanied Captain Fitzroy in H. M. S. Beagle,) in the month of December, about fifteen miles westward of the town, on a sort of underwood shrub, which Mr. David Don, on the examination of the small branches, and of a single leaf, thinks may probably be a species of *Celastrus*. Of the figures in illustration of the paper exhibited to the Meeting, one represents a branch supporting two of the galls, which are sometimes clustered five or six together. They arise where the attachment of leaves or flowers is indicated, and are therefore most probably produced by the transformation of the buds themselves, acted on by the *stimulus* of the insect secretions. On the side of each gall is a round aperture, with an *operculum* accurately fitted to it, which may easily be picked out with the point of a penknife. This *operculum* is equally convex on its outer surface with the rest of the gall, and is of the same thickness; but its internal diameter is less than that of its external surface, which forms a broader rim. Around the orifice the margin of the gall is thickened and a little raised. Within each of the entire galls was found a *pupa* attached to the base by its tail, with its head close to the *operculum*; which, it should seem, gives way by a slight expansion or elongation of the *pupa* when just ready to hatch, and the cast skin is left sticking in the passage.

Mr. Curtis observes that he was very much surprised to find on examination that the *pupæ* contained in these galls belonged not to the *Hymenoptera* but to the *Lepidopterous* order; an occurrence hitherto almost unprecedented. The characters of the *Insect*, as far as could be detected from the imperfect state in which it was found, are as follows:

CECIDOSES.

Caput parvum.

Antennæ corpus longitudine æquantes, graciles, ciliatæ, articulis elongatis numerosis: in capitis vertice prope oculos insertæ.

Thorax squamulis depressis vestitus.

Abdomen subrobustum, ovato-conicum.

Pedes longi; *tibiis* anticis spinâ prope apicem munitis, intermediis posticisque ad apicem calcaratis, his densè squamulatis et in medio præterea bi-spinosis; *tarsis* 5-articulatis, articulo basali longissimo; *unguibus pulvillisque* minutis.

Alæ sublanceolatæ.

CECIDOSES EREMITA. *Cec. cinereus; alis anticis saturatè brunneo maculatis, densè ciliatis; posticis albidis.*

Hab. prope Monte Video. *Pupa* in gallis *Celastri?* abscondita.

From the stoutness of the body Mr. Curtis is inclined to refer the

Moth to the *Tortricidæ*; if belonging to *Pyralidæ* or *Crambidæ*, its *palpi* should be more strongly developed, but neither they nor the *maxillæ* were discoverable.

Figures of the imperfectly developed moth and of several of its parts, as well as of the galls and their *opercula*, together with specimens of the latter, were exhibited in illustration of the paper.

February 24, 1835.

William Yarrell, Esq., in the Chair.

A Letter was read from Lady Rolle, addressed to the Secretary, giving an account of the birth of two young *Monkeys*, the produce of a pair of *Ouistitis* (*Jacchus penicillatus*, Geoff.) in her Ladyship's possession. The parents were obtained in London during the last summer, and the young were produced on the 1st of January: one was born dead, but the other still survives, being about six weeks old. It appears likely to live, and is every day put on the table at the dessert, and fed upon sweet cake. Lady Rolle states that the mother takes great care of it, exactly in the manner described by Edwards in his 'Gleanings,' p. 151, pl. 218; where the animal is figured and described under the name of the *Sanglin*.

It was observed that young of the same species had been born at the Society's Gardens, but not living; and that a female in the collection of the President, the Earl of Derby, at Knowsley, had produced, about the same time as Lady Rolle's, two living and healthy young ones, which are still thriving.

Mr. Gould exhibited a living specimen of the *red-billed Toucan*, *Ramphastos erythrorhynchus*, Gmel., which had recently come into his possession.

The exhibition was resumed of the new species of *Shells* contained in the collection of Mr. Cuming. Those brought at the present Meeting under the notice of the Society were accompanied by characters by Mr. G. B. Sowerby.

Genus VENUS.

VENUS COLUMBIENSIS. *Ven. testâ rotundato-ellipticâ, crassâ, cinereo albidoque variegatâ, radiatim costatâ, costis plurimis, planulato-rotundatis, quam interstitia duplò latioribus; latere antico breviore, costis decussatim squamosis, squamulis brevibus, obtusis; lateris postici costis rugosis; partis intermediæ costis sublævibus; intùs albicante: long.* 2·2, *lat.* 1·3, *alt.* 1·9 *poll.*

Hab. ad Sanctam Elenam Columbiæ Occidentalis.

Found in coarse sand at low water.—G. B. S.

VENUS SUBIMBRICATA. *Ven. testâ cordato-subtrigonâ, crassâ, fusco albidoque radiatim lineatâ vel variegatâ, costellis radiantibus confertis, costis subimbricatis decussantibus, prope umbonem lamelliferis; latere antico breviore, impressione cordatâ anticâ magnâ; latere postico longiore, declivi, planato, depresso; margine ventrali rotundato, intùs denticulato: long.* 1·6, *lat.* 1·, *alt.* 1·6 *poll.*

Hab. ad Portam Portreram Americæ Centralis.

Found in fine sand in thirteen fathoms.

Variat *testâ parvâ longiore, costis decussantibus omnibus lamelliferis: long.* 0·8, *lat.* 0·4, *alt.* 0·7 *poll.*
Hab. ad Acapulco.—G. B. S.

VENUS UNDATELLA. *Ven. testâ rotundato-ellipticâ, crassâ, albidâ fusco maculatâ punctatâ et undatim pictâ, costellis radiantibus confertis, aliisque decussantibus undulatis sublamellosis; latere antico breviore, postico subdeclivi, marginibus depressis; margine ventrali rotundato, intùs crenulato: long.* 1·6, *lat.* 1·, *alt.* 1·5 *poll.*
Hab. in Sinu Californiensi. (Island of Tres Marias.)
Found on the shore.—G. B. S.

VENUS DISCREPANS. *Ven. testâ ellipticâ, crassâ, albicante, fusco subradiatim pictâ; latere antico breviore, subproducto; postico subdeclivi; marginibus depressis; costis concentricis posticè lamellosis, medio obtusis, latiusculis, anticè sublamellosis; umbonibus subprominentibus; margine ventrali rotundato, intùs denticulato: long.* 1·4, *lat.* 0·8, *alt.* 1·25 *poll.*
Hab. ad oras Peruviæ. (Islay.)
The blunt, rather broad, concentric ribs of the middle part of each valve are speckled with brown on their upper surfaces, and delicately crenulated on their ventral margins.
Found in muddy sand at a depth of sixteen fathoms.—G. B. S.

VENUS MULTICOSTATA. *Ven. testâ ellipticâ, ventricosâ, crassâ, concentricè multicostatâ, costis reflexis, crassis, anticè undulatis, medio crenatis, posticè alternatim interruptis, subirregularibus, subundulatis; marginibus dorsali rectiusculo, ventrali rotundato; impressione cordiformi anticâ distinctâ: long.* 4·3, *lat.* 2·7, *alt.* 3·7 *poll.*
Hab. in Sinu Panamæ.
This is perhaps the largest species known. It is a very handsome shell, of a pale fawn colour, with several darker rays, somewhat divided into spots.
Found in coarse sand at low water.—G. B. S.

VENUS PERUVIANA. *Ven. testâ obovatâ, crassâ, concentricè costatâ, costis crassiusculis, sublamellosis, anticè reflexis, medio reflexis, fulvo articulatis, posticè deflexis, tenuioribus; latere postico quam anticum duplò longiore, marginibus depressis, planatis; margine ventrali rotundato, intùs lævi: long.* 2·3, *lat.* 1·2, *alt.* 1·9 *poll.*
Hab. ad oras Peruviæ. (Ancon.)
Found in soft mud at a depth of five fathoms.—G. B. S.

VENUS AUSTRALIS. *Ven. testâ ovato-subtrigonâ, crassiusculâ, fulvescente maculis angulosis subtrigonis subradiatim pictâ, concentricè lamellosâ, lamellis concinnis confertis, tenuibus, obtusis, pulcherrimè radiatim decussatis, prope latera elevatioribus; marginibus dorsali subelevato, ventrali rotundato, intùs denticulato: long.* 1·1, *lat.* 0·55, *alt.* 0·9 *poll.*
Hab. ad oras Australiæ. (Swan River.)—G. B. S.

VENUS SPURCA. *Ven. testâ ovatâ, crassâ, sordidè fulvâ fusco radiatim maculosâ, concentricè subobsoletè costellatâ, costellis obtusis, prope latera subinterruptis; margine ventrali intùs denticulato: long.* 1·1, *lat.* 0·6, *alt.* 0·9 *poll.*

Hab. ad Valparaiso.

Found in coarse sand at a depth of from thirty to fifty fathoms. —G. B. S.

Genus CYTHEREA.

CYTHEREA RADIATA. *Cyth. testâ subtrigonâ, subæquilaterâ, gibbosâ, pallescente brunneo radiatâ et undulatim pictâ, lævi, epidermide corneâ crassiusculâ plus minusve indutâ; lateribus antico posticoque ventrem versus rotundatis; margine ventrali rectiusculo, intùs lævi: long.* 2·5, *lat.* 1·5, *alt.* 2· *poll.*

Hab. ad oras Columbiæ Occidentalis. (Salango and Xipixapi.)—G. B. S.

This species belongs to that division of the genus which has four cardinal teeth, and is destitute of the cordiform anterior impression.

Found in sandy mud at a depth of nine fathoms.—G. B. S.

CYTHEREA UNICOLOR. *Cyth. testâ ovato-subcordiformi, crassiusculâ, brunnescente, lævi, politâ; lateribus antico posticoque concentricè sulcatis, sulcis medio obsoletis; latere postico longiore, versus partem ventralem subacuminato; margine ventrali lævi, intùs purpurascente: long.* 1·6, *lat.* 0·75, *alt.* 1·3 *poll.*

Hab. ad Real Llejos Americæ Centralis.

Variat *testâ majore, albicante.*

Found in coarse sand at a depth of six fathoms.—G. B. S.

CYTHEREA CONCINNA. *Cyth. testâ ovato-subcordatâ, crassiusculâ, rubente albicante radiatâ; latere postico longiore, subacuminato; costellis numerosis, concentricis, obtusis, concinnis, confertis: long.* 1·6, *lat.* 0·8, *alt.* 1·2 *poll.*

Hab. ad Panamam.

Found at a depth of ten fathoms in fine sand.—G. B. S.

CYTHEREA SQUALIDA. *Cyth. testâ ovato-subcordatâ, crassiusculâ, lævi, pallidè fuscâ, nonnunquam maculis irregularibus saturatioribus; epidermide fuscâ; latere postico longiore, prope partem ventralem subacuminato: long.* 2·7, *lat.* 1·3, *alt.* 2· *poll.*

Hab. ad Sanctam Elenam.

This shell bears some resemblance to *Cyth. maculosa*. It has generally a very dull and dirty aspect. One of the several varieties in Mr. Cuming's collection is rather agreeably ornamented with concentric purple bands.

Found in sandy mud at a depth of six fathoms.—G. B. S.

A paper was read by Mr. Owen, entitled, "Description of a Microscopic *Entozoon* infesting the Muscles of the Human Body." The author observes, that upwards of fifteen different kinds of internal parasites are already known to infest the human body, but none have been found of so minute a size, or existing in such astonishing numbers, as the species about to be described. The muscles of bodies dissected at Saint Bartholomew's Hospital had been more than once noticed by Mr. Wormald, the Demonstrator of Anatomy at that establishment, to be beset with minute whitish specks; and this appearance having been again remarked in that of an Italian, aged 45, by Mr. Paget, a student of the hospital, who suspected it to be produced by minute *Entozoa*, the suspicion was found to be correct, and Mr. Owen was furnished with portions of the muscles, on which he made the following observations.

With a lens of an inch *focus* the white specks are at once seen to be cysts of an elliptical figure, with the extremities in general attenuated, elongated, and more opake than the body (or intermediate part) of the cyst, which is sufficiently transparent to show that it contains a minute coiled-up worm. On separating the muscular *fasciculi*, the cysts are found to adhere to the surrounding cellular substance by the whole of their external surface, somewhat laxly at the middle dilated part, but more strongly by means of their elongated extremities. When placed on a micrometer, they measure 1/50th of an inch in their longitudinal and 1/100th of an inch in their transverse diameter, a few being somewhat larger, and others diminishing in size to about one half of the above dimensions. They are generally placed in single rows, parallel to the muscular fibres, at distances varying from 1/2 a line to a line apart; but sometimes a larger and a smaller cyst are seen attached together by one of their extremities, and they are occasionally observed slightly overlapping each other.

If a thin portion of muscle be dried and placed in Canada balsam, between a plate of glass and a plate of talc, the cysts become more transparent, and allow of the contained worm being more plainly seen. Under a lens of the *focus* of 1/8 an inch, the worm appears to occupy a circumscribed space of a less elongated and more regularly elliptical form than the external cyst, as if within a smaller cyst contained in the larger: it does not occupy more than a third part of the inner space. A few of the cysts have been seen to contain two distinct worms; and Mr. Farr, who has paid much attention to the subject, exhibited a drawing of one of the cysts from this subject, containing three distinct worms, all of nearly equal size. Occasionally the tip of one of the extremities of the cyst is observed to be dilated and transparent, as though a portion of the larger cyst were about to be separated by a process of gemmation; and these small attached cysts are seen of different sizes, and, as it were, in different stages of growth. This appearance, however, Mr. Owen conceives to be explicable without a reference of a power of independent vitality to either of the adherent cysts. The cysts are composed of condensed and compacted *lamellæ* of cellular tissue; but a few are hardened by the deposition of some earthy salt, so as to resist the knife and to produce a gritty sensation when broken under pressure.

When removed from the interior of the cyst, which, on account of the minuteness of the object, is a matter of some difficulty, the worm is usually found to be disposed in two or two and a half spiral coils. When straightened it measures from 1/25th to 1/30th of an inch in length, and from $\frac{1}{700}$th to $\frac{1}{800}$th of an inch in diameter: a high magnifying power is consequently required for its examination. It is round and filiform, terminating obtusely at both extremities, which are of unequal sizes, and tapering towards one end for about a fifth part of its length, but continuing of uniform diameter from that point to the opposite extremity. As it is only at the larger extremity that he has been enabled to distinguish an indication of an orifice, Mr. Owen regards that as the head. He states that this indication has been so constant in a number of individuals examined under every variety of circumstance, that he has no hesitation in ascribing a large transverse linear orifice or mouth to the greater extremity.

The recently extracted worm, observed by means of a Wollaston's doublet, before any evaporation of the surrounding moisture has affected its integument, presents a smooth transparent external skin, inclosing a fine granular and flaky substance or *parenchyma*. It is obvious that the test of coloured food cannot here be applied to elucidate the form of the digestive organs, but there is no appearance of the *parietes* of an alimentary canal floating in a visceral cavity and distinct from the integument of the body, nor was any trace of an orifice observed at the smaller extremity. Mr. Owen was also unable to detect in any instance a projecting *spiculum* or hook at either extremity, or any appearance of the worm having been torn from an attached cyst. Its transparency is such as not to admit of a doubt as to its wanting the ovarian and seminal tubes, and the other characteristics of the complicated structure of *Filaria*, *Ascaris*, and the *Nematoid Entozoa* generally. It is not of a rigid texture, but is extremely fragile, and exhibits when uncoiled a tendency to return in some degree to its former state.

Mr. Owen refers to the genus *Capsularia* as established by Zeder, and rejected by Rudolphi, (who considers its species as belonging either to *Filaria* or *Ascaris*,) for the purpose of contrasting the complicated organization of the worms composing it with the extremely simple structure of the encysted worm under consideration. The circumstance of being inclosed in cysts he stated to be common to many very differently organized genera of *Entozoa*. There are few, indeed, with the exception of those which live upon the mucous surfaces of the body, that do not, by exciting the adhesive inflammation, become inclosed within an adventitious cyst of condensed cellular substance. He regards the simple type of structure exhibited by the minute animal now for the first time described as approximating it to the lower organized groups of the *Vers Parenchymateux* of Cuvier; and both from its locality and from the constancy of its cysts, he regards it as manifesting a relation of analogy to the order *Cystica* of Rudolphi. From all the genera of that order, however, it differs in the want of the complex armature of the head, and of the dilated vesicle of the tail. At first sight it seems indicative of an annectant group which would complete the circular arrangement of the *Entozoa* by combining the form of the *Filariæ* of the first, with some of the characteristics of the *Cysticerci* of the last, of Rudolphi's orders. Unfortunately the class *Entozoa*, as it now stands, is so constituted that an animal may be referred to it without much real or available knowledge of its organization being thereby afforded: it embraces animals with the molecular, and others with the filiform, condition of the nervous system; conditions which are accompanied by different types of the digestive system, and which indicate not merely differences of class, but even of primary division, in the animal kingdom. Mr. Owen considers the animal under consideration as being most nearly allied to that form of the *Polygastric Infusoria* which is exhibited by the lower organized *Vibriones* of Müller, and of which Ehrenberg has composed his genera *Vibrio*, *Spirillum*, and *Bacterium*; and that, like the seminal *Cercariæ*, it may be regarded as an example from the lowest class of the animal kingdom having its *habitat* in the interior of living animal bodies. Referring it, however, provisionally, to the class *Entozoa*, in which it would indicate a new order, its generic character may be thus given:

TRICHINA.

Animal pellucidum, filiforme, teres, posticè attenuatum: ore lineari, ano discreto nullo, tubo intestinali genitalibusque inconspicuis. (In vesicâ externâ cellulosâ, elasticâ, plerumque solitarium.)

TRICHINA SPIRALIS. *Trich. minutissima, spiraliter, rarò flexuosè, incurva; capite obtuso, collo nullo, caudâ attenuatâ obtusâ.* (*Vesicâ externâ ellipticâ, extremitatibus plerumque attenuatis elongatis.*)

Hab. in *hominis* musculis (præter involuntarios) per totum corpus diffusa, creberrima.

Mr. Owen further states that within about a fortnight of the former case, a second body similarly affected had been brought into the dissecting-room of Saint Bartholomew's Hospital; and some notes were furnished by Mr. Paget, who first observed the worms in the Italian, with regard to the cases of the two patients while living in the Hospital. From these it appeared that both had died after long and debilitating illness, producing great emaciation, unaccompanied, however, with any eruption on the skin, or any greater loss of muscular power than would probably have arisen from the diseases of which they died. The occurrence of two cases in the same dissecting-room within so short a period of each other, and the recollection of similar appearances being not unfrequently present in other bodies dissected there, combined with an account published in the Medical Gazette for February 2, 1833, of very small *Cysticerci* occurring in the muscles of a subject at Guy's Hospital, which cannot but be considered referrible to the same cause, render it highly probable that a sufficient number of observations will soon occur to elucidate this curious disease. In two of the cases the emaciation was accompanied by external, and in the third by internal, ulceration; but no connexion was traced between the worm and any of the symptoms of the disease.

In a portion of muscle placed, after it had reached a state of incipient putrescence, in spirit of wine for three days, the worms, when pressed out from their cysts, exhibited languid, but sufficiently evident motions, consisting in the tightening and relaxation of their coils: and more languid motions were afterwards noticed in some specimens that were examined a fortnight after the death of the subject from which they were obtained.

Mr. Owen enters at some length into the question of the origin of the cyst, and after comparing its structure and connexions with various more or less analogous productions, he states his opinion that the cyst is adventitious, foreign to the *Entozoon*, and composed of the cellular substance of the body infested, morbidly altered by the irritation of the worm.

The reading of the paper was accompanied by the exhibition of drawings showing portions of the infested muscle, with magnified representations of the cysts and of the worms contained within them; and specimens of the objects themselves were also placed upon the table for examination with the aid of Mr. Pritchard's microscope, lent by him for that purpose.

Mr. Owen also read a Paper "On the Anatomy of *Linguatula Tænioides*, Cuv." After referring to the observations on the anatomical structure of this highly organized *Entozoon*, published by Cuvier and Rudolphi, he proceeds to state the results of his own dissection of a fine specimen, 3½ inches in length, for which he was indebted to Mr. Langstaff. The whole body is invested with a smooth, transparent, rather fine cuticle, which, from maceration, and probably slight decomposition, had become detached. In this *epidermis* there exist no marks of an annulate structure; but the *cutis*, or muscular *parietes* of the body, is distinctly divided into segments slightly overlapping each other, and most obvious on the sides of the body, which are its thickest and most muscular portions. The dorsal and ventral *parietes*, on the contrary, are so transparent as to allow of the contained parts being readily seen through them.

The most essential difference between *Linguatula* and the *Cestoidea*, among which it was first placed by Chabert, consists in the generative organs being androgynous, with the oviduct continued from one end of the body to the other. Rudolphi, uncertain with regard to the structure of the digestive organs, placed it among the *Trematoda*; but the specimen under examination affords conclusive evidence of the justice of Cuvier's removal of it to the *Nematoidea*. The alimentary canal commences at the central *foramen*, or true mouth, and runs straight to the opposite extremity of the body, terminating immediately above the orifice of the genital tube; the *œsophagus* being ⅓rd of a line in length, and opening into a suddenly dilated canal, which continues with little variation of diameter to the *anus*.

At the distance of a line posterior to the mouth, on the ventral aspect of the body, the narrow extremities of two elongated vesicles, 3 lines in length and more than ½ a line in diameter, adhere firmly to the integument, the remainder hanging freely in the abdominal cavity. These Mr. Owen considers to be analogous to the impregnating glands of the hermaphrodite *Rotifera*, &c. The ovary, which is distinct from the tube so called by Cuvier and Rudolphi, is a narrow, elongated, minutely granulated body, extending along the mesial line of the dorsal *parietes* of the body for the extent of its two anterior thirds: about ½ an inch from the head it gives off two slender capillary tubes, which unite below the origins of the lateral nerves, and enter the commencement of the oviduct. The commencement of this tube, formed by the junction of the two ducts just mentioned with those of the seminal vesicles, is very narrow: in the greater part of its course it is coiled in numerous and complex gyrations around the intestine, but towards the lower third of the body its coils become fewer and more distant, the brown *ova* are seen in scattered masses, and at length it runs parallel with the intestine straight to the *anus*. It is widest at the commencement of the coils; then becomes narrower; and afterwards continues of the same diameter to its termination.

The cerebral *ganglion* mentioned by Cuvier was very conspicuous in the specimen here described: it is situated between the mouth and the commencement of the oviduct, and is consequently sub-œsophageal. Eight pairs of nerves may be distinguished going from it in a radiated manner. This radiated disposition of the nervous system is similar to that which obtains in the *Slug* (*Limax*); and it may also be observed that the disposition of the muscular system in *Limax* is analogous to that of *Linguatula*, being most developed at the sides of the foot, and least along the middle line, which is thin and semitransparent when viewed against the light. If it were allowable to trace further the analogy of form subsisting between genera so widely separated, the two *fossæ* with their little hooks on either side the mouth of *Linguatula*, might be compared with the two depressions, which, when the *tentacula* are retracted, may be seen in the same situation in the head of the *Slug*. It is the superior organization of these parts, required for its superior powers of locomotion, that renders necessary the further development of the nervous system in the *Slug*; and the completion of the cerebral ring and the development of the supra-œsophageal *ganglia* constitute the chief difference between it and *Linguatula* in this part of their organization. In like manner the action of the muscles in the *Slug* occasions waste, and demands a proportionate supply of new material; and hence the necessity of the superaddition of a sanguineous system for the carriage of the restorative molecules, of a more complex digestive apparatus for their supply, and of respiratory and secretory organs for the elimination of the waste parts of the body. In *Linguatula*, on the contrary, the sphere of action being limited to a dark cavity, the necessity for the superadded structures does not exist; its food, already animalized, requires only a simple canal to complete its assimilation; neither heart nor vessels are conspicuous; and it is probable that nutrition is effected by transudation and imbibition.

The reading of Mr. Owen's Paper was accompanied by the exhibition of drawings in illustration of the structures described in it.

March 10, 1835.

William Yarrell, Esq., in the Chair.

Specimens were exhibited of several species of *Trogon*, partly from the Society's collection, and partly from that of Mr. Gould; and, at the request of the Chairman, Mr. Gould called the attention of the Meeting to some of the more interesting among them

One of them was the *Bird* represented by M. Temminck, in his 'Planches Coloriées', under the name of *Trog. fasciatus*; and on this Mr. Gould remarked, that having had an opportunity of examining the drawing made by Forster, on which Pennant's original description was founded, he had ascertained that it represented a species altogether distinct from M. Temminck's *Bird*, and much more nearly resembling *Trog. Malabaricus*. As the name of *Trog. fasciatus* must necessarily remain with the species originally described under it, the one figured by M. Temminck requires another designation; and Mr. Gould proposed for it that of *Trog. Temminckii*.

Another, was the splendid species figured by M. Temminck, in the same work, under the name of *Trog. pavoninus*, a name by which it is now generally known; but on referring to M. Spix's 'Avium Brasiliensium Species Novæ,' the original description and figure of *Trog. pavoninus*, Spix, appear to Mr. Gould to have reference to a totally different species, distinguishable by its smaller size, by the absence of crest from its head, by the comparative shortness of its hinder back plumes (which do not extend more than a few inches beyond the tail), and by the whole of the tail-feathers being black. The species exhibiting the peculiarities just adverted to will, of course, retain its original name of *Trog. pavoninus*; for the other Mr. Gould proposed that of

TROGON RESPLENDENS. *Trog. plumis capitis notæique laxis, lanceolatis, illius cristam efformantibus, hujus posterioribus longissimis, tripedalibus; suprà et ad guttur pectusque splendidè aureo-viridis; ventre crissoque coccineis; rectricibus sex intermediis nigris, cæteris albis ad apicem tantummodo nigris.*

Fœm.? vel Junior? *Capite, gutture, pectoreque obscurè viridibus; dorso viridi; ventre cinerascenti-brunneo; crisso coccineo; capite subcristato; tectricibus caudæ superioribus brevioribus; rectricibus externis tribus utrinque albis nigro fasciatis.*

Rostrum flavum, in fœminâ? juniori? nigrum: *tarsi* brunnei.

Hab. in Mexico in provinciis Austrum spectantibus.

Mr. Gould also characterized two species, hitherto apparently undescribed.

TROGON AMBIGUUS. *Trog. capite guttureque nigris, pectore, cervice, dorso, caudæque tectricibus superioribus viridibus; alis brunneo-nigris, in medio cinereis lineis gracilibus flexuosis transversim notatis; rectricibus duabus intermediis proximarumque duarum utrinque pogoniis externis cupreo-viridibus, harum pogoniis internis omniumque apicibus nigris, reliquis ad basin nigris, ad apicem albis, in medio albis maculis parvis numerosis sparsis nigris.*

Long. tot. 12 unc.; *alæ*, 5¼; *caudæ*, 7¼.

Rostrum flavum: *tarsi* brunnei.

Hab. in Mexico in plagis Septentrionalibus.

This *Bird* is very nearly related to *Trog. elegans*, a species characterized by Mr. Gould at the Meeting of the Society on April 8, 1834, (Proceedings, Part II. p. 26). It differs by having the outer tail-feathers obscurely and finely dotted, while in *Trog. elegans* they are marked by strong and well-defined bars; and by having the middle of the wing much more finely and minutely barred than the latter bird. These distinctions, although apparently trivial, having been observed by Mr. Gould in many specimens, and the individuals seen by him of *Trog. ambiguus* having been brought exclusively from the northern, while those of *Trog. elegans* have all been collected in the southern states of Mexico; he is induced to regard the two *Birds* as being, very probably, specifically distinct.

TROGON CITREOLUS. *Trog. vertice, collo, dorso, guttureque cœrulescenti-viridibus; rectricibus duabus intermediis ad apicem, proximarum duarum utrinque pogoniis internis, reliquisque ad basin nigris, his apicem versus albis; ventre citrino in aurantiacum vergente; alis brunnescenti-nigris, rectricum pogoniis externis albo fimbriatis.*

Fœm. *Capite, gutture, dorsoque saturatè cinereis; rectricibus sex intermediis brunnescenti-nigris. in cæteris mari simillima.*

Long. tot. 10½ unc.; *alæ*, 5¼; *caudæ*, 6; *rostri*, a rictu ad apicem, 1.

Rostrum cœrulescenti-corneum.

Hab.

This species differs from *Trog. violaceus* by its smaller size, the lighter colour of its under surface, and the great extent of the white at the ends of the outer tail-feathers.

Mr. Owen commenced the reading of a Paper "On the comparative Osteology of the *Orang* and *Chimpanzee*." He stated that he was indebted to Mr. Walker for the opportunity of examining and describing in detail the skeleton of an adult *Chimpanzee*, obtained by that gentleman a few years since from the west coast of Africa, which had enabled him to compare it with that of the young animal. This comparison evidenced in that species a series of changes in the advance towards maturity, analogous to those which take place in the *Orang* and the *Pongo*, and consequently afforded a strong confirmation of the opinion which regards the latter animal as the adult of the former.

The general appearance and proportion of the *Chimpanzee*, Mr. Owen remarks, are unquestionably the most anthropoid that the *Quadrumanous* order presents; but many marked and essential differences are observable upon a close comparison. The skull of the adult is of a narrow elongated ovate figure, slightly contracting towards the anterior part, which is, as it were, truncated, from the depth and direction of the *symphysis* of the lower jaw. Compared with the rest of the body it is of small size, owing to the arrested development of the cerebral portion, which, as in other *Quadrumana*, is altogether posterior, the face sloping forwards in the adult animal, at an open angle, as in the *Baboons*. Its exterior surface is devoid of the intermuscular frontal and sagittal crests which give so strong a carnivorous character to the skull of the *Orang*. The extent of the origin of the temporal muscles is, however, readily traceable by a slightly elevated ridge of bone: it differs considerably in the adult and in the fœtal skulls, but exactly accords with the increase in the power of mastication required for the due action of the large permanent teeth. It is possible that the slight development of the intermuscular crest may be a sexual character; for in an adult female *cranium* of the *Orang*, the crest was scarcely more prominent than in the *Chimpanzee*: in the latter, however, its development is less to be expected, in consequence of the smaller comparative size of the canine teeth. The muscular impressions on the occipital region are also less strongly marked than in the *Orang*, in which the occipital *foramen* is nearer the posterior plane and its position is more oblique. There is a greater proportion of brain behind the *meatus auditorius externus* in the *Chimpanzee* than in the *Orang*, and this disproportion is much greater in the adult than in the young. Considerable changes also take place in the relations of the *meatus auditorius* with the glenoid cavity for the articulation of the lower jaw, in consequence of the increased development of the maxillary apparatus, while the *cranium* remains nearly stationary; and a process, of which the rudiment is perceptible in the young animal, coextending in downward growth with the changed position of the articulation, becomes interposed between the condyle and the *meatus*, and affords a support against backward dislocation. In the *cranium* of the negro, a similar process may be traced in a rudimental condition, anterior to the *fissura Glaseri*, as in the young *Chimpanzee*.

The *zygoma* is proportionally weaker than in the *Orang*. But the most remarkable characteristic of the skull of the *Chimpanzee*, both in the young and adult states, is the large projecting supraorbital ridges, which being continued into each other across the *glabella*, form a sort of barrier between the head and face. The cranial sutures, which are obliterated in the adult *Orang*, *syndactylous Ape*, and more or less in the *Baboons*, are for the most part persistent in the *Chimpanzee*, as in the human subject. Enough of the squamous suture remains to show that the anterior angle of the temporal bone joins the frontal, and separates the parietal and sphenoid bones, as in the young. The condyloid processes are proportionately smaller than in the human subject, and their articular surface is directed more outwardly. The *foramen magnum* is thrown back to about the middle of the posterior third of the base of the skull, and its plane is inclined from before upwards at an angle of 5°. There are no posterior condyloid *foramina*. The styloid process is represented by a very small tuberosity. A considerable space intervenes between the *foramen magnum* and the bony palate, which itself equally exceeds the corresponding portion of the human skull. The zygomatic arches are opposite to the middle third of the *cranium* as seen from below, in which position also the contraction of the skull between the *zygomata* offers a marked distinction from that of *Man.*

In the front view of the *cranium*, the threatening supraciliary ridges almost hide the cephalic cavity from view; and the latter, instead of forming a broad back-ground to the face, as in the young *Chimpanzee*, and still more in *Man*, is surpassed in breadth by the lateral boundaries of the orbits and the zygomatic arches. The orbits are seated higher than in the *Orang*, and are larger in proportion; but their plane is more perpendicular, and they are wider apart. In neither the *Chimpanzee* nor the *Orang* is there a supraorbitary *foramen*, but its place is marked by a slight groove. The lachrymal bones are entirely confined to the orbit. A character by which the *Chimpanzee* approximates more closely than the *Orang* to the human subject is found in the nasal bone, which projects in a slightly arched form beyond the interorbital plane, and exhibits at its lower margin a trace of its original separation into two lateral portions: it is anchylosed with the *os frontis* and the suture obliterated. The malar bones are largely developed, and two or three small *foramina* are observable in the process on the outside of the orbit. The contour of the upper jaw from the nasal aperture to the incisor teeth is almost straight, while in the *Orang* it is rendered concave by the greater development of the alveolar processes of the intermaxillary bones. The obliteration of the sutures between these bones and the upper maxillary takes place at a much earlier period in the *Chimpanzee* than in the *Orang*; although in the young animal, when the first dentition is complete, traces of the original separation are still visible. The situation of the *foramina incisiva* is always indicative of the original extent of these bones, and in no *Mammal* do they approximate so closely to the incisive teeth as in *Man.* The infraorbitary canal opens upon the face by a single *foramen*: Mr. Owen has observed a second in one young specimen, but never more. In the *Orang* there are usually three or more, as in many of the inferior *Simiæ*. The lower jaw, like the upper, is characterized by its strength and relative size. Its *symphysis* recedes, but the depth at this part is much less than in the *Orang*. The *alveoli* advance more nearly to the level of the condyle, and consequently approximate proportionally to the structure of the brute; the mental *foramen* is single.

Mr. Owen next proceeds to notice the dental *formula* and the characters of the teeth; and observes particularly on the modifications in their arrangement and relative position consequent on the preponderating development of the *cuspidatus*. He also points out the more important deviations which occur in the disposition and development of the different bones of the face in connexion with the same influential condition of the organs of mastication; and then continues his description of the skeleton of the *Chimpanzee* by passing to that of the trunk.

The number of the *vertebræ* is the same as in *Man*; but an additional rib subtracts one from the lumbar to be added to the dorsal series. The spines of the cervical *vertebræ* are simple and elongated; that of the third being the shortest, with the exception of the *atlas*, which, as usual, is without spine. The bodies of the lumbar *vertebræ* are proportionally smaller than in *Man*; a difference easily accounted for by the necessity of affording a basis for the support of the latter in the erect position; and the same recession from the *Bimanous* type is manifested in the narrow and elongated form of the *sacrum*. In the adult animal, but less conspicuously in the young, the iliac bones rise on either side of the last lumbar *vertebra*, and are partially attached to it. The coccygeal are anchylosed together, but not with the *sacrum*; three are distinctly visible in the young. Of the sacral *vertebræ* only the two superior are united to the iliac bones. The *pelvis* differs from that of *Man* in all those particulars which characterize the *Quadrumana*, and which relate to the imperfection of their means of maintaining the erect position. The iliac bones are long, flat, and narrow, the anterior surface stretching outwards almost parallel with the plane of the *sacrum*; the aperture is elongated and narrow; and the tuberosities of the *ischia* are broad, thick, and curved outwards. There is, however, a provision for a more extended attachment of the *glutæi* muscles in a greater breadth of the *ilia* between the superior spinous processes than is observed in the inferior *Simiæ*; and we may thence infer that the semi-erect position is more easily maintained in the *Chimpanzee*.

In the relative size and strength of the lower extremities, the *Chimpanzee* claims a much closer relationship to the human subject than the *Orang*. Both animals exhibit in this respect permanent conditions that are transitory in *Man*: in the *Orang* the legs have the curtailed proportions which they present in the human *fœtus* of four months' gestation; in the *Chimpanzee* they retain the relative size of the yearling infant. The *femur*, not more bent anteriorly than in *Man*, has its neck of equal comparative length, but standing out more obliquely from the shaft. In the adult, as well as in the young *Chimpanzee*, the depression in the head of the *femur* for the attachment of the *ligamentum teres*, which is wanting in the *Orang* and the *Pongo*, is found to exist, notwithstanding the remark of Meckel to the contrary. The *tibia* and *fibula* are proportionally thicker and stronger than in *Man*; and the *patella* proportionally smaller. In their relative size and position the tarsal bones more closely resemble the corresponding bones of the human subject than those of any other *Quadrumanous* animal. The outer articulating surface of the *astragalus* is, however, of larger size, and a corresponding disproportion exists between the external and internal *malleolus*, the latter, from its smaller size, presenting less resistance to the rotation of the *tarsus* inwards. The *os calcis* projects further backwards than in the lower *Simiæ*, but is more compressed laterally, and of much smaller proportional size than in *Man*. The *os naviculare* projects further downwards, and the internal cuneiform bone has a corresponding inclination below the level of the tarsal bones. But whilst the *Chimpanzee* exhibits the *Quadrumanous* characters in these particulars, and especially in the curtailed proportion and detached opposable condition of the *hallux*, it approaches more nearly to *Man* in the length and strength of that member. The whole foot is much longer than in the human subject; and the entire organization of the inferior members evidently bespeaks a creature destined to reside in forests, the modifications of the bony structure which add to the facility of climbing and grasping, rendering the entire frame more dependent on the upper extremities for the means of progression and support.

The size and expansion of the *thorax* is a marked character in the *Chimpanzee*: it has thirteen ribs on each side, and the last two pairs are proportionally longer than in *Man*, the end of the last not being pointed, but widened for the attachment of a cartilage. The *sternum* is flattened, but not so broad as in the *Orang*. The *harmonia* between its body and the *manubrium*, and those between the four single pieces of which the body is itself composed, remain visible in the adult skeleton. The clavicle is long and strong, and is not straight, as in the *Orang*, but sigmoidally curved, though in a less degree than in *Man*; while the *scapula*, on the other hand, recedes further from the human type than in the *Orang*. The *humerus* very closely resembles that of the human subject, but is proportionally longer and stronger, and has its twist more strongly marked and lower down on the bone. As the segments of the limbs recede further from the trunk they become subject to greater and more varied modifications. Thus the disproportionate length of the *humerus* is succeded by a still greater elongation of the fore-arm, the bones of which are also more curved from each other than in *Man*, and the inter-osseous space consequently enlarged. The bones of the *carpus* are the same in number as in the human subject; but the *trapezium* and *trapezoides* are proportionally smaller, while the *os pisiforme* nearly equals the *os magnum*. The thumb does not quite equal in length the metacarpal bone of the first finger, and is as slender and weak as it is short. Some little disproportion also exists between the relative lengths of the fingers; but taken together they are relatively stronger and more elongated than in *Man*.

After completing his detailed examination of the skeleton, Mr. Owen reverts to the changes which it undergoes in its progress to maturity, especially as regards the proportions of the head and face; and states that he has derived full confirmation of the identity of species in the young and adult *crania*, from a comparison of the crowns of the permanent teeth lodged within the jaws of the young *Chimpanzee* with those which had replaced the deciduous teeth in the older specimen. The resemblance in point of size and figure was exact, and left no room for doubt as to the point in question. The succession takes place precisely as in the human subject, but the permanent teeth, and especially the incisors and canines, are proportionally longer. The particulars of their form and arrangement are given at length.

This portion of the paper was accompanied by an extensive series of admeasurements of the different parts of the skeleton in the adult and young *Chimpanzee*, compared with those of the young and adult *Orang*; and was further illustrated by numerous drawings, and by the exhibition of Mr. Walker's skeleton of the *Chimpanzee*, lent by him for the purpose.

The second portion of the paper commences with the remark that the opportunity which the rare and interesting skeleton of the adult *Chimpanzee*, in the possession of Mr. Walker, had afforded of tracing the changes of structure occurring in that *Ape*, in its progress to the adult condition, had induced the author to review the question relative to the identity of the young *Simia Satyrus* with the great *Pongo* of Borneo, formerly brought by him under the notice of the Society ('Proceedings of Committee of Science and Correspondence,' Part I. p. 9); and to consider the osteological structure of the latter, or adult *Orang*, with reference to that of its less powerful and more anthropoid congener, the *Chimpanzee*. This comparison would show that the number and value of the points of resemblance, or of approximation, to the *Bimanous* structure are in favour of the *Chimpanzee*; although in this, as in most other instances, there are some particulars of its organization indicative of a more marked relation with the inferior forms of the group than with those which rank immediately below it.

In common with the skull of the *Mandrill* that of the adult *Orang* is remarkable for its flattened *occiput*, formidable canine teeth, huge jaws, widely expanded zygomatic arches, and strongly developed cranial ridges; but it exhibits a marked distinction in its less brutalized expression, resulting from the more perpendicular slope of the face, the absence of the projecting supraciliary ridges, the greater expansion of the cerebral cavity, and the non-development of the supramaxillary ridges. Its *cranium* is less flattened at the *vertex* than that of the *Chimpanzee*; and but little exceeds in capacity that of the young at the period of acquiring its first permanent *molares*, the increase in size being chiefly dependent on the thickening of the walls of the skull. The ridges which circumscribe on the frontal bone the origin of the temporal muscles inclose a triangular space, the smoothness of which strongly contrasts with the irregular surface of the remainder of the *cranium*; and the interparietal crest rises, as in the *Hyæna* and other *Carnivora*, high above the general level. The situation of these ridges, with reference to the sutures, is only determinable by comparing the faint commencement of their growth in the young animal, very few traces of the sutures remaining in the adult skull. That between the *ala* of the sphenoid bone and the descending angle of the parietal, by means of which the frontal and temporal are kept separate, and which offers one of the few osteological differences in which the *Orang* has a closer approximation to the human structure than the *Chimpanzee*, is among those which continue to be marked even in the adult. The occipital *foramen* approaches in figure, position, and aspect, nearer to that of the lower *Mammalia*; the occipital condyles are more closely approximated anteriorly; the anterior condyloid *foramina* are double on each side; and the carotid *foramen* is situated more posteriorly, and is relatively smaller, than in the *Chimpanzee*. The petrous portion of the temporal bone is smaller, while the glenoid cavity forms a much larger proportion of the base of the skull. This cavity, if such it may be called, presents a quadrate, almost flattened surface, slightly concave in the transverse, and slightly convex in the antero-posterior direction, affording an interesting correspondence with the structure of the molar teeth, and indicative of the vegetable diet of the animal. The styloid and styliform processes are wanting, as in the *Chimpanzee*; the mastoid is represented by a protuberant ridge, and its cellular structure is visible in consequence of the thinness of the external table. The ant-auditory process is more developed than in the *Chimpanzee*, and the margins of the auditory *foramina* are smoother.

On the bony palate, the relative positions of the *foramina incisiva* correspond with the increased development of the laniary teeth, and consequently deviate in a proportionate degree from their positions in the *Chimpanzee* and in the human subject. Two or three *foramina* remain on either side and indicate the original separation of the incisive bones; and similar indications of the original *harmoniæ* between the incisive and maxillary bones are seen on the anterior part of the skull. In the *Chimpanzee* the obliteration of these sutures takes place some time before the temporary teeth are shed; in the *Orang* they remain until the permanent teeth are almost fully developed: in the human subject the intermaxillary bones can be traced as distinct elements only in the early periods of fœtal existence, when they were first detected by the poet Gœthe. In the *Orang* no part of the *os nasi* projects, as in the *Chimpanzee*, beyond the plane of the nasal processes of the superior maxillary bones; and there are no traces of its original separation at the mesial line, while in the *Chimpanzee* such traces are usually found, and Dr. Traill observed two distinct *ossa nasi* in the young of that species dissected by him. The lachrymal bones are proportionally larger than in *Man*; but, as in the *Chimpanzee* and the higher *Quadrumana*, they are confined to the orbit, the whole outer boundary of which has a more anterior aspect than in the *Chimpanzee*, and is relatively broader and stronger, but with the oblique posterior edge less developed. The interorbital space is relatively narrower, the disproportion increasing with the development of the superior maxillary bones, and evidencing a still further departure from the human form. There are three infraorbital *foramina* instead of one; the upper maxillary bones are much more largely developed in consequence of the great size of the laniary teeth; and the incisor teeth project more obliquely forwards than in the *Chimpanzee*.

"In all the peculiarities," Mr. Owen observes, "of the *Orang's* skull, which are independent of the changes consequent on the second dentition, we find an exact correspondence between the *Simia Satyrus*, or young animal, and the *Pongo*, or adult. The *crania* equally exhibit the absence of the projecting supraciliary ridges; the presence of the double anterior condyloid *foramina*; the numerous infra-orbitary *foramina*, and those in the malar bone; the same disposition of the cranial sutures; the same form of the *os nasi*; and contraction of the inter-orbital space. The character of the lower jaw by which it differs from the *Chimpanzee*, viz. the greater height and breadth of the *rami*, and the greater depth of the *symphysis*, are equally manifested in the young as in the old *Simia Satyrus*. In following out the same observations with regard to the germs of the permanent teeth in the young *Orang*, the same satisfactory results are obtained in reference to their identity with those which are fully developed in the old animals, as were previously detailed in the account of the *Chimpanzee*."

Mr. Owen then proceeds to describe in detail the appearances presented by the germs of the permanent teeth, and to compare them with the adult; and concludes this part of his subject by some observations on the apparent confusion in which these germs lie hidden within the jaw, and on the admirable and orderly arrangement by which the most perfect regularity is established in their ultimate position. Applying these observations to the replacement of the teeth in man, he inquires, how it happens that when the chances of disarrangement are so much fewer, the mal-position of the permanent teeth is of so frequent occurrence, and finds the solution of this problem in a mischievous interference with the agents to which the necessary changes have been entrusted. "The means by which the growth of the permanent teeth are kept in due restraint are too often prematurely removed by anticipating the natural period of the extraction of the temporary teeth; the act of extraction accelerates the growth of the concealed teeth, both by the removal of the check which nature has imposed upon it, and by the irritation induced in the surrounding parts; and their full development being consequently acquired before the jaws have been sufficiently enlarged, they occupy more or less of the relative position which they had when half formed within their bony cavities."

The conditions of the superior development of the spinous processes of the cervical *vertebræ* in the *Orang*, are obviously the backward position of the occipital *foramen*, the disproportionate development of the face, and the general anterior inclination of the *vertebræ* themselves. Those of the sixth and seventh *vertebræ* have a slight inclination towards the head, indicating that the centre of motion in this region is nearer the head than in *Man*. The whole of the cervical region is proportionally shorter, and consequently better adapted to support the head; and the entire vertebral column has one general curve dorsad from the *atlas* to the commencement of the *sacrum*, where there is a slight curve in the contrary direction. As in *Man*, the number of the dorsal or costal *vertebræ* is twelve, and this constitutes one of the more important differences between the *Orang* and the *Chimpanzee*. That of the lumbar *vertebræ* is four, as in the *Chimpanzee*, in the skeleton of the *Pongo* preserved in the Museum of Comparative Anatomy at the Garden of Plants, and in the trunk of the skeleton of the adult *Orang* in the collection of the Society; in which latter, as the bones remain connected by their natural ligaments, there is no room for supposing a *vertebra* to have been accidentally lost. The additional lumbar *vertebra* in the skeleton of the *Pongo* in the College of Surgeons, on which some stress has been laid, as indicative of its specific difference from the young *Orang*, which has uniformly presented but four, indicates its abnormal character by its form and situation. The human subject occasionally presents a similar *lusus* in the addition of a sixth lumbar *vertebra*. The spines of these *vertebræ* are much shorter than in the *Chimpanzee*: as in the latter, the *sacrum* is longer, narrower and straighter than that of *Man*. Five sacral *vertebræ* are perforated for the passage of the spinal cord; three are imperforated, and are consequently coccygeal: the latter are anchylosed together, but not with the *sacrum*, in the adult.

The *ilia* are as much expanded as in the *Chimpanzee*, but flatter; and the *ischia* are less extended outwards, corresponding with the smaller development of the lower extremities. Both the *ischia* and *ossa pubis* resemble those of the *Chimpanzee*, in their more elongated form; and the whole *pelvis* equally deviates from the *Bimanous* type in its position with regard to the trunk. The form of its superior aperture is an almost perfect oval, the antero-posterior diameter of which is to the transverse as three to two; and the axis of the brim forms, with that of the outlet, a much more open angle than in the human subject. The chest is amply developed, equalling in size that of the human subject, except in being somewhat narrower from side to side. The ribs are narrower and less flattened, but their curvature is nearly the same as in *Man*; the twelfth is much longer, and has a long cartilage at its free extremity. The *sternum* is short, but broader than in the *Chimpanzee*: it is composed, below the *manubrium*, of a double series of small bones, seven or eight in number. This composition, always seen in the young *Orang*, is sufficiently obvious in the adult *Pongo* in the Museum of the College of Surgeons, but much less so in that of the Garden of Plants at Paris. In the young *Chimpanzee* the *sternum* is composed of a single series of bones; while in the human subject, although at an early period of ossification, a single series only of ossific centres appears: at a later stage the lower part of the *sternum* is frequently seen to be composed of a double series.

The clavicles are almost straight; and the *scapula* also differs from that of the *Chimpanzee* in its greater breadth, and from that of *Man* in the inclination of its spine towards the superior *costa*, in the *acromion* being narrow and claviform, and in the absence of the flattened and over-hanging margin of the spine. Other differences exist in the comparative dimensions and features of the supra- and subspinal *fossæ*, in the inclination of the coracoid process, and in the direction of the glenoid cavity. But the principal feature in the organization of the *Orang*, and that in which it differs most from the *Chimpanzee*, consists in the relative length of the upper and lower extremities, the arms in the former reaching to the heel. The articular surface of the head of the *humerus* forms a complete hemisphere; and in some specimens that bone is perforated between the condyles. The principal peculiarities in the fore-arm consist in the large space between the *radius* and *ulna*, occasioned by the outward curve of the former, and in the absence of the acute margin on its ulnar aspect. The proportion borne by the *radius* to the *ulna* is in *Man* as 11 to 12; in the *Orang* as 36 to 37. The bones of the hand offer the same elongated form, with the exception of those of the thumb, which does not reach to the end of the metacarpal bone of the fore-finger. Those of the *carpus* have their ossification completed at a later period than in *Man*, and allow a freer motion upon each other: the *os pisiforme* is divided into two. Of the fingers, the proximal *phalanges* are more curved than in *Man*, and the distal more pointed, not expanding to afford support for an extended surface of delicate touch.

As the upper extremity of the *Orang* exceeds in length that of the *Chimpanzee*, so the lower differs as much in the contrary respect; preserving throughout life much less than the fœtal proportions of the human subject. The *femur* has a straight shaft, no depression on the head, a shorter neck forming a more obtuse angle with the shaft, and no *linea aspera* posteriorly. The inner condyle not being produced beyond the outer, the axis of the *femur* is in the same line with that of the *tibia*, as in the *Chimpanzee*. The inward curve of the *tibia* occasions a much larger space between it and the *fibula* than in *Man* or in the *Chimpanzee*. The *patella* is smaller in proportion than in *Man*, of an oval shape, and with a single articulating surface. The bones of the *tarsus* are numerically the same with those of the *Chimpanzee*, and have the same general form, but admit of freer motion on each other. A greater degree of obliquity in the articulating surface of the *astragalus* causes the whole foot to be turned more inwards; and the *os calcis* has still less projection backwards than the *Chimpanzee*. The internal cuneiform bone recedes most from the human type in having a greater development towards the tibial aspect, and in having the surface of articulation for the *hallux* below the range of the other metatarsal bones, all of which are much longer and more bent and have greater interspaces than the human. That of the *hallux* extends very little beyond the middle of that of the second toe, and stands off from it at an acute angle. The peculiarity of the structure of the *hallux* first noticed by Camper, in seven out of eight *Orangs* observed by him, viz. its possessing no ungueal *phalanx* and consequently no nail, loses much of its importance as a specific character from the fact that the individual dissected at the Society's Museum a few years since had very perfect, but small, black nails, and two *phalanges*, and that the same number of *phalanges* exist in the natural skeleton of Lord Amherst's *Orang* in the Museum of the College of Surgeons. The *phalanges* of the other toes are remarkably elongated, and those of the first series are curved. The middle toe is longer than the rest, while in the *Chimpanzee* it barely surpasses the second. The concavity of the great toe is turned more towards the other toes than in the *Chimpanzee*, (in which that toe is also longer, having always two *phalanges* in addition to the metatarsal bone,) is set more forwards on the internal cuneiform bone, and has its concavity directed more towards the sole of the foot. The resemblance to the human foot is consequently greater in the *Chimpanzee* than in the *Orang*.

In conclusion Mr. Owen adverted to a fine specimen of the skull of a *Pongo* in the possession of Mr. Cross, of the Surrey Zoological Gardens, which presents the following differences when compared with the skull of the *Pongo* in the Museum of the College of Surgeons.

It is shorter in the antero-posterior diameter, and rises higher at the *vertex*. The supraorbitary ridges are more prominent; the plane of the orbits is more vertical, and their lateral exceeds their perpendicular diameter. The profile line of the skull is concave between the *glabella* and incisor teeth, while, in the specimen in the Museum of the College, it is almost a straight line between the same parts. The *symphysis* of the jaw from the interspace of the mesial incisors to the origin of the *genio-hyoidei* muscles, measures 2½ inches in Mr. Cross's specimen, but equals 3¾ inches in the *Pongo* in the College Museum. There is also a remarkable difference in the position of the zygomatic suture. In the *Pongo* of the College Museum it commences at the distance of a quarter of an inch from the orbital process of the malar bone, and extends obliquely backwards to within 1¼ inch of the origin of the zygomatic process of the temporal bone. In Mr. Cross's specimen the same suture commences 8 lines from the orbital process of the malar bone, and extends to within 10 lines of the origin of the temporal zygomatic process, so that it is much nearer the middle of the *zygoma*.

With these differences, however, there exist the same form and proportions of the teeth, and the same peculiarities of the *foramina* and sutures which distinguish the *Orang* from the *Chimpanzee*. So that although the difference in the shape and general contour of the two skulls, is greater than is usually observable in those of other wild animals, yet Mr. Owen does not consider them sufficient to afford grounds for a distinction of species. He thinks it, however, probable that they may be indicative of varieties of the *Orang* inhabiting distinct localities, and remarks that it would be interesting with that view to compare the *crania* of ascertained specimens from Borneo and Sumatra, to which Islands this very remarkable species appears to be confined.

March 24, 1835.

William Yarrell, Esq., in the Chair.

A Letter was read, addressed to the Secretary by W. Willshire, Esq., Corr. Memb. Z. S., dated Mogadore, February 19, 1835, and referring to the skin of an *Aoudad, Ovis Tragelaphus*, Geoff., presented by the writer to the Society, and also adverting to his endeavours to obtain the animal which, from the description of it given by the Arabs of the Desert, Mr. Willshire conceives must be the *Antilope Leucoryx* described by Pennant.

The exhibition was resumed of the new species of *Shells* contained in Mr. Cuming's collection. Those brought on the present evening under the notice of the Society, completed the genera *Venus* and *Cytherea*, which had been commenced at the Meeting on February 24, (page 21). The *Shells* now exhibited were accompanied by characters by Mr. Broderip and Mr. G. B. Sowerby.

Genus Venus.

Venus tricolor. *Ven. testâ ovato-ellipticâ, crassiusculâ, radiatim costellatâ, costellis decussatis; maculis interruptis fuscis, irregularibus, radiatim dispositis; margine dorsali medio subangulato; impressione cordiformi anticâ parvâ; intùs violaceâ, margine ventrali denticulato: long.* 1·7, *lat.* 0·75, *alt.* 1·3 *poll.*

Hab. ad oras Americæ Centralis. (Puerto Portrero.)

Found in sandy mud at from eleven to thirteen fathoms.—G. B. S.

Venus histrionica. *Ven. testâ obovatâ, pallidè fulvâ, radiatim costellatâ, costellis plerumque duplicatis, concinnè decussatis, asperis; maculis interruptis fuscis irregularibus radiatim pictâ; margine dorsali rectiusculo, posticè subangulato; impressione cordiformi anticâ magnâ; intùs albicante, margine ventrali denticulato: long.* 1·8, *lat.* 1·, *alt.* 1·4 *poll.*

Hab. apud Real Llejos, Americæ Centralis, et ad Sanctam Elenam.

Found in muddy sand at low water.—G. B. S.

Venus fusco-lineata. *Ven. testâ obovatâ, albicante, radiatim costellatâ, costellis anticè subdecussatis; lineis undatis, subobliquis, radiisque duobus fuscis nonnunquam pictâ; margine dorsali rectiusculo, posticè subangulato; latere antico brevi, impressione cordiformi anticâ parvâ; intùs purpurascente, margine ventrali denticulato: long.* 1·5, *lat.* 0·8, *alt.* 1·2 *poll.*

Hab. ad oras Americæ Centralis. (Guacomayo.)

Found in sandy mud at a depth of thirteen fathoms.—G. B. S.

Venus Chilensis. *Ven. testâ obovatâ, pallidâ, radiatim costellatâ, costellis (medianis præcipuè) planulatis, (anticis posticisque præcipuè) decussatis; maculis, lituris, strigilisque pallidè fuscis ornatâ; margine dorsali rectiusculo, subdeclivi, posticè subangulato; latere antico breviore, impressione cordiformi parvâ; intùs albicante, margine ventrali denticulato: long.* 2·8, *lat.* 1·5, *alt.* 2·4 *poll.*

Hab. ad oras Chilenses. (Valparaiso Bay.)
Found in coarse sand at low water.—G. B. S.

VENUS LENTICULARIS. *Ven. testâ lenticulari-subtrapeziformi, crassâ, opacâ, pallidâ, lævi, lineis concentricis anticè posticèque distinctis, medio obsoletis, prope umbonem elevatiusculis; margine dorsali subrotundato, posticè subangulato; impressione cordiformi elongatâ, parvâ, impressâ; intùs albidâ, margine ventrali lævi: long.* 3·1, *lat.* 1·5, *alt.* 2·7 *poll.*
Hab. ad oras Chilenses. (Valparaiso Bay.)
Found in coarse sand at low water.—G. B. S.

VENUS ASPERRIMA. *Ven. testâ obovatâ, crassiusculâ, opacâ, albicante, radiatim costellatâ, costellis numerosis, decussatis, asperis, latere antico breviore; margine postico dorsali declivi, rectiusculo; impressione cordiformi anticâ elongatâ long* 2·, *lat.* 1·, *alt.* 1·65 *poll.*
Hab. ad Insulam Lobos dictam.
Found in fine sand at low water.—G. B. S.

VENUS COSTELLATA. *Ven. testâ obovatâ, turgidâ, fuscescente, costellis lamellosis, reflexis, posticè magis eminentibus, concentricis ornatâ; lineis radiantibus impressis albis decussatâ; impressione cordiformi anticâ distinctâ, marginibus medianis elevatiusculis; intùs albâ, margine ventrali crenulato: long.* 2·6, *lat.* 1·5, *alt.* 2·3 *poll.*
Hab. ad Valparaiso, Chilensium, et ad Callao, Peruviæ.
OBS. Testa nonnunquam unicolor, nonnunquam prope apices concinnè punctulata.
Found in coarse sand at a depth of from six to fifteen fathoms.—G. B. S.

VENUS OPACA. *Ven. testâ oblongâ, subquadratâ, subturgidâ, lævi, opacâ, albidâ, pallidissimè purpurascente; latere antico breviore, rotundato, concentricè ruguloso, postico subrotundato, suprà infràque subangulato; margine interno integerrimo; ligamento permagno: long.* 3·4, *lat.* 1·6, *alt.* 2·5 *poll.*
Hab. ad oras Chilenses. (Conception and Maule.)
Found in sandy mud at low water.—G. B. S.

VENUS VARIABILIS. *Ven. testâ oblongo-subtrigonâ, tenuiusculâ, lævi, politâ, albâ, strigilis lineisve angularibus fuscis variè pictâ; intùs albâ, margine integerrimo: long.* 1·3, *lat.* 0·7, *alt.* 1·1 *poll.*
Hab. in Australiâ. (Swan River.)—G. B. S.

VENUS DISCORS. *Ven. testâ obovali, crassiusculâ, radiatim confertim striatâ, anticè rugis decussatâ, albâ fusco-nigricante instrata, coloribus valvæ alteræ diversimodo ordinatis; lineâ dorsali elevatiusculâ; intùs albâ, posticè violaceo tinctâ, margine ventrali crenulato: long.* 1·9, *lat.* 1·1, *alt.* 1·6 *poll.*
Hab. ad Sanctam Elenam, Americæ Meridionalis, et ad Guacomayo, Americæ Centralis.
The disparity in the arrangement of the colouring in the two valves is a remarkable peculiarity in this species.
Found in sandy mud at from six to nine fathoms.—G. B. S.

Venus Cypria. *Ven. testâ oblongâ, subtrigonâ, concentricè lamellosâ, lamellis crassis, obtusis, posticè tenuioribus, subappressis, albâ fusco radiatâ ; lineâ dorsali rectiusculâ, declivi ; areâ posticâ latâ, fuscatâ ; impressione cordiformi anticâ conspicuâ, fuscâ ; margine ventrali intùs integerrimo : long.* 0·75, *lat.* 0·4, *alt.* 0·6 *poll.*

Hab. ad Insulam Platæ, Columbiæ Occidentalis.

Found among coral sand in seventeen fathoms.

This appears to be a near relation to the Linnean *Venus Paphia*.—G. B. S.

Venus crenifera. *Ven. testâ ellipticâ, asperâ, albicante fusco maculatâ et variè pictâ, lamellis concentricis, brevibus, confertis, striis radiantibus confertissimis decussatis ; margine ventrali crenulato, dente cardinali antico magno, elongato long.* 1·4, *lat.* 0·8, *alt.* 1·2 *poll.*

Hab. ad Sanctam Elenam.

Variat *testâ subfuscâ, unicolore, striis radiantibus nonnullis elevatis costiformibus.*

Hab. ad Paytam, Peruviæ.

Found in the sand at low water.—G. B. S.

Venus leucodon. *Ven. testâ ellipticâ, cinerascente, crassiusculâ, concentricè costellatâ, costellis lævibus, reflexis, radiatim striatâ, striis numerosis, confertis ; areâ dorsali posticâ lunulâque fuscis , margine interno ventrali denticulato, denticulis albis, interstitiis nigricantibus : long.* 1·35, *lat.* 0·7, *alt.* 1·15 *poll.*

Hab. in Sinu Californiensi. (Guaymas.)

Found in coarse sand at low water.—G. B. S.

Venus Californiensis. *Ven. testâ globosâ, crassâ, albente, concentricè multi-lamellosâ, lamellis crassiusculis lateraliter subcrenulatis, costis creberrimis cancellatâ ; areâ posticâ infossâ, grandi : lunulâ magnâ, tumente ; intùs albâ, impressionibus muscularibus posticis violaceo fucatis ; limbo interno crenato : long.* 2·9, *lat.* 1·7, *alt.* 2·7 *poll.*

Hab. in sinu Californiæ. (Guaymas.)

From about the middle of the valve the concentric *lamellæ* begin to approach nearer and nearer, till, in old specimens, they hide the radiated ribs, and at length, at the ventral border which is covered with an *epidermis*, they become mere smooth lineations. The internal violaceous spots are not always on the posterior muscular impressions, but sometimes only in their immediate neighbourhood.

Found in sandy mud at low water.—W. J. B.

Venus compta. *Ven. testâ subtrigonâ, planiusculâ, crassâ, lamellis concentricis lateraliter crenulatis, crassiusculis, radiatim creberrimè costellatâ, albente lineis flavo-castaneis inscriptâ ; areâ posticâ incisâ, spadiceo strigatâ ; lunulâ pallidiore ; intùs albâ, limbo crenato : long.* 2·3, *lat.* 1·2, *alt.* 2· *poll.*

Hab. ad Peruviam. (Bay of Sechura.)

A fine species. It was dredged up in coarse sand and mud at a depth of seven fathoms.—W. J. B.

Venus ornatissima. *Ven. testâ subglobulosâ, radiatim creberrimè costatâ, lamellis concentricis valdè elevatis, crispo-plicatis, spadiceo-albente; intùs albâ, limbo interno crenulato: long.* 1·6, *lat.* (*lamellis inclusis*) 1·1, *alt.* 1·4 *poll.*

Hab. ad Panamam.

This unique and highly ornamented shell was dredged up from sandy mud at a depth of ten fathoms.

The regular radiating ribs, each of which, as it advances from about the middle of the valve to the ventral border, has a depression in the middle, and the crisply plaited well-developed concentric frill-like *lamellæ*, render it the most curious in point of workmanship of any of the species.—W. J. B.

Venus Mactracea. *Ven. testâ subglobulosâ, lineis concentricis, elevatis, acutis, subdistantibus ornatâ, albâ; limbo interno lævi: long.* 1·5, *lat.* 0·9, *alt.* 1·3 *poll.*

Hab. ad Valparaiso.

This unique shell was dredged from sandy mud at a depth of twenty fathoms. I have given it the trivial name of *Mactracea* because it reminds the spectator of some of the lamellated species of that genus.—W. J. B.

Venus pulicaria. *Ven. testâ subtrigonâ, lineis concentricis, elevatis, creberrimis, subtilissimè plicatis ornatâ, albâ spadiceo inspersâ; areâ dorsali vel posticâ nigro-spadiceo strigatâ, lunulâ fuscâ; intùs purpurascente, limbum versus crenulatum albente: long.* 1·8, *lat.* 1·, *alt.* 1·4 *poll.*

Hab. ad Columbiam Occidentalem. (Chiriqui and Tumaco.)

The scattered spots are often arranged in angular figures, and being more intense in some parts than others, the valves present a somewhat radiated appearance.

Dredged up from sandy mud at a depth of three fathoms.—W. J. B.

Venus obscura. *Ven. testâ subglobosâ, lineis concentricis crenulatis horridâ, albente obscurè maculatâ; intùs albâ, limbo crenulato: long.* 0·7, *lat.* 0·5, *lat.* 0·7 *poll.*

Hab. in Oceano Pacifico. (Lord Hood's Island.)

Found in coral sand at low water.—W. J. B.

Genus Cytherea.

Cytherea lubrica. *Cyth. testâ subrotundato-cordatâ, lubricâ, subviolaceâ, intùs albâ, anticè et supernè subconcentricè lineatâ, lineis elevatis; limbo interno lævi: long.* 1·7, *lat.* 0·8, *alt.* 1·4 *poll.*

Hab. in Americâ Centrali. (Puerto Portrero).

This species, which is of moderate size, was dredged up by Mr. Cuming from coral sand at a depth of thirteen fathoms. The concentric somewhat elevated lines are comparatively small and close at the upper part of the valve near the *umbones*, and gradually widen out till they become distant and strongly marked at the anterior part of the valves, the middle and posterior parts of which are without any lineations. The whole shell has a shining slippery appearance.—W. J. B.

Cytherea alternata. *Cyth. testâ subrotundato-trigonâ, lineis concentricis elevatis acutis frequentibus ornatâ, albâ spadiceo radiatâ; areâ dorsali vel posticâ lunulâque spadiceo-violaceis; intùs albâ, umbones versus spadiceo-violaceo obscurè nebulosâ; limbo interno lævi: long.* 1·4, *lat.* 0·8, *alt.* 1·2 *poll.*

Hab. ad Columbiam Occidentalem. (Monte Christi.)

This species was dredged up in sandy mud at a depth of seven fathoms. The size of the specimen is rather less than that of the preceding.—W. J. B.

Cytherea tortuosa. *Cyth. testâ obliquè cordatâ, posticè sublobatâ, lineis frequentibus subconcentricis obtusis posticè irregularibus, albâ umbones versus subspadiceo-albâ: long.* 1·6, *lat.* 0·85, *alt.* 1·2 *poll.*

Hab. ad Panamam, et ad Xipixapi.

Var. testâ roseo rufoque pulcherrimè subradiatim pictâ.

Lamarck refers to no figure for his *Cyth. albina*, but only says that it has some likeness to the *Pectunculus* figured in Lister's Conchology, *t.* 263, *f.* 99. Part of Lamarck's description would apply to the shell now before me, but the term "striis exiguis" is inapplicable to the blunt and coarse lines with which the shell under description is marked concentrically, and as there is no notice taken of the posterior sublobation, I must conclude that Lamarck's *Cyth. albina* is not my *Cyth. tortuosa*.

Dredged up from sandy mud at a depth of six fathoms.—W. J. B.

Cytherea affinis. *Cyth. testâ ovato-oblongâ, planiusculâ, lineis distantibus elevatis subacutis concentricis, albente violaceo radiatâ, posticè vix sublobata; areâ posticâ violaceâ, lunulâ pallidâ; intùs albâ, limbo interno lævi; epidermide fuscâ tenui: long.* 1·6, *lat.* 0·7, *alt.* 1·1 *poll.*

Hab. ad Colombiam Occidentalem. (Xipixapi.)

This species, which approaches the last, differs from it in the following particulars. The shell is much flatter, the elevated, regular, concentric, somewhat sharp lines are much more distant, (especially as they recede from the *umbones*,) than the irregular, close-set, blunted lineations, almost amounting to rugosities, of *Cyth. tortuosa*. There is an approach to lobation towards the dorsal or posterior border; but it is not nearly so strongly marked as in *Cyth. tortuosa*. Still it may be a variety of *Cyth. tortuosa*.

Dredged up from sandy mud at a depth of ten fathoms.—W. J. B.

Cytherea Dione, varr.

Though varieties of this species have, for a long time, been known in this country, I am not aware that they have ever been recorded. The descriptions of Linnæus and Lamarck and the figures quoted by them, apply to the variety found in the West Indies, which is comparatively small with the *lamellæ* high and sharp and the spines close-set and short, the prevailing tinge of the shell being of a somewhat vinous or purplish flesh-colour. A dark-coloured long-spined variety of this and a white one, also with long spines, the spines in both being very close-set, were dredged up from sandy mud at a depth of nine fathoms at Salango in West Colombia.

Var. β. *Pallida, areâ dorsali vel posteriori lunulâque violaceis; lineis concentricis anticè lamellatis, alibi rotundatis irregularibus, rugarum formam referentibus; spinis distantibus longissimis.*

This variety, of which Mr. Cuming possesses a specimen with the lower spines an inch and a half long, grows to a large size. It was dredged up at Tumbez, in Peru, from soft mud at a depth of five fathoms.

Var. γ. *Violacea; anticè et ad umbones sublamellosa, alibi lævis, spinis valdè distantibus, crassiusculis, mediocribus.*

This variety, which is almost entirely of a violet colour excepting the two white streaks which mark the line of the spines in each valve, and some white about the neighbourhood of the lower part of the anterior border, grows also to a large size. It is smooth with the exception of a few concentric lines at the *umbones* and a few *lamellæ* towards the anterior border. The spines are distant, indeed in the specimen before me there are hardly any in the place where the interior rows usually are, there being but one on one side and none on the other, with the exception of a few towards the *umbones* on both sides. The outer spines, as well as the inner one, are thick and strong but comparatively short, the longest being hardly seven eighths of an inch long in a specimen of about the same size as that from which the description of variety β was taken. Var. γ was dredged up from sandy mud at a depth of seven fathoms at San Blas in the gulf of California.

There are many gradations of colour, &c. between the varieties. I possess a specimen of variety β very nearly white, with the exception of the lunule. All the varieties are subject to have the spines, or at least some of them, tortuous.—W. J. B.

Cytherea vulnerata. *Cyth. testâ subglobosâ, lineis concentricis creberrimis lævibus, albente fasciis angustis purpureo-sanguineis hinc et hinc ornatâ; lunulâ et areâ posticâ sub-atropurpureis; limbo ventrali rubro, intùs subcrenulato; epidermide subfuscâ; intùs albâ subroseo suffusâ: long. 1·6, lat. 0·9, alt. 1·4 poll.*

Hab. in Americâ Centrali. (Real Llejos.)

The ruddy lines which occasionally gird this whitish shell, and its red border, give this species a pleasing appearance. It was dredged up from sandy mud at a depth of six fathoms.—W. J. B.

Cytherea planulata, var. suffusa. *Cyth. planulata, testâ æquilaterali, trigonâ, radiis omnino suffusis; latere postico clauso.*

Hab. ad Salango.

This differs from *Cyth. planulata*, (Zool. Journ., V. p. 48,) in being more equilateral, rather more gibbose, in having the coloured rays spread all over the shell, and in being closed posteriorly. The anterior side in *Cyth. planulata* is the longer.

Found in sandy mud at a depth of nine fathoms.—G. B. S.

Cytherea argentina. *Cyth. testâ subtrigonâ, lævi, albâ, subæquilaterali, latere antico paullò breviore, postico subacuminato; margine dorsali postico rectiusculo, declivi, ventrali rotundato; epidermide tenui, corneâ, extùs velutinâ, albâ, quasi argentatâ, indutâ: long. 2·5, lat. 1·4, alt. 2·1 poll.*

Hab. ad Sinum Nocoiyo, Americæ Centralis.
Found in sand banks at low water.—G. B. S.

CYTHEREA PANNOSA. *Cyth. testâ obovatâ, crassiusculâ, lævi, albicante maculis strigis lineisve angulatis luridis obscurè pictâ; apicibus subprominentibus: long.* 1·15, *lat.* 0·6, *alt.* 0·9 *poll.*
Hab. ad oras Chilenses. (Coquimbo.)
Found in sandy mud at low water.—G. B. S.

CYTHEREA PALLESCENS. *Cyth. testâ obovatâ, tenui, pallidè lutescente, lævi, concentricè striatâ; latere antico breviore, apicibus subprominulis; intùs albâ; impressione cordiformi anticâ elongatâ, distinctâ: long.* 1·4, *lat.* 0·8, *alt.* 1·1 *poll.*
Hab. ad Insulam Annaan.
Found in coral sand.—G. B. S.

CYTHEREA INCONSPICUA. *Cyth. testâ obovatâ, crassiusculâ, lævi, albidâ, concentricè striatâ, striis exilissimis, epidermide tenuissimâ, pallidè subfuscâ; apicibus subprominulis; impressione cordiformi anticâ ovatâ, inconspicuâ: long.* 1·2, *lat.* 0·65, *alt.* 1· *poll.*
Hab. ad Paytam, Peruviæ.
Found in sandy mud at low water.—G. B. S.

CYTHEREA MODESTA. *Cyth. testâ ovatâ, crassiusculâ, lævi, concentricè sulcatâ, sulcis obsoletiusculis; albâ fusco et fusco-purpurascente variâ; apicibus subprominulis; latere postico longiore, declivi: long.* 0·9, *lat.* 0·5, *alt.* 0·7 *poll.*
Hab. ad Xipixapi, Americæ Meridionalis.
Found in sandy mud in from nine to eleven fathoms.—G. B. S.

CYTHEREA PECTINATA, var. immaculata. *Cyth. pectinata, testâ pallescente unicolore, intùs lutescente.*
Hab. ad Insulas Oceani Pacifici. (Lord Hood's Island, one of the Paumotu group.)—G. B. S.

Specimens were exhibited of numerous *Thrushes*, chiefly inhabitants of the Himalayan Mountains and of India; and Mr. Gould, at the request of the Chairman, brought them under the notice of the Meeting, principally with the view of indicating those of the former district as constituting a new form in the family *Merulidæ*, Vig., for which he proposed the generic name

IANTHOCINCLA.

Rostrum ferè ut in *Cinclosomate* et *Turdo* sed magis robustum: mandibulâ superiore ad basin setigerâ.
Nares basales, ovales, apertæ.
Alæ breves, concavæ, rotundatæ; remigibus 6tâ 7mâque longioribus, omnibus mollibus.
Cauda subelongata, concava, rotundata; rectricibus mollibus.
Tarsi elongati, robusti.
Hallux digitum medium longitudine subæquans, ungue forti subæquali munitus.

Typus genericus. *Cinclosoma ocellatum*, Vig.
Montium Himalayæ Incolæ.

The chief distinguishing characteristics of the genus *Ianthocincla* are the comparative length of the *tarsus*; the length of the hinder toe, and the great length of the claw by which it is terminated; the roundness, concavity, softness, and yielding character of the wings and tail; and the peculiar fullness, lightness, and downiness of the whole of the plumage, and particularly of that of the back and rump. The downy nature of the covering is alluded to in the generic name.

The following species may be referred to it.

1. IANTHOCINCLA OCELLATA.
 Cinclosoma ocellatum, *Vig., in Proc. Comm. Sci. Zool. Soc., Part I. p.* 55.—*Gould, Cent. Him. Birds, Pl. xx.*

2. IANTHOCINCLA VARIEGATA.
 Cinclosoma variegatum, *Vig., in Proc. Comm. Sci. Zool. Soc., Part I. p.* 56.—*Gould, Cent. Him. Birds, Pl. xvi.*

3. IANTHOCINCLA ERYTHROCEPHALA.
 Cinclosoma erythrocephalum, *Vig., in Proc. Comm. Sci. Zool. Soc., Part I. p.* 171.—*Gould, Cent. Him. Birds, Pl. xvii.*

4. IANTHOCINCLA SQUAMATA. *Ianth. brunnea, plumis lunulâ nigrâ ad apicem notatis; uropygio sordidè castaneo; alis caudâque nigris, rectricibus ad apicem ochraceo-flavis.*

Long. tot. 9½ unc.; *rostri,* 1; *alæ,* 4; *caudæ,* 4½; *tarsi,* 1¼.
*Rostrum tarsi*que brunnei.

The inner webs of each of the primaries and the outer edges of the first seven of them are margined with a light silvery grey; the secondaries have the same parts of a dull ochre yellow becoming more ferruginous towards the shoulders.

5. IANTHOCINCLA CHRYSOPTERA. *Ianth. saturatè brunnescenti-cinerea, alis fasciâ castaneâ notatis; fronte, facie, gutture, auribusque sordidè cinereo-albentibus; vertice nuchâque nitidè ferrugineis; scapularibus pectoreque arenaceo-rubris, hoc saturatiore, plumis lunulâ castaneâ ad apicem notatis; caudâ suprà saturatè aureo-olivaceâ, infrà brunneâ; remigum pogoniis externis nitidè aureo-olivaceis.*

Long. tot. 10—10½ unc.; *rostri,* ⅞; *alæ,* 4; *caudæ,* 5; *tarsi,* 1½.
*Rostrum pedes*que brunnei.

The specimens exhibited of this and the preceding species were recently presented to the Society, with other selected *Birds*, by Sir Philip Grey Egerton.

6. IANTHOCINCLA RUFOGULARIS. *Ianth. suprà olivacea, posticè et ad caudam rufescenti tincta, plumis nigro apiculatis; vertice fasciâque alarum mediâ nigris; strigâ a rictu ad oculum juguloque albis; gulâ crissoque rufis; pectore sordidè albescente brunneo-nigricante maculato; ventre brunnescenti-cinereo; rectricibus prope apicem rufo-castaneum nigro fasciatis.*

Long. tot. 10 unc.; *rostri,* 1; *alæ,* 3⅞; *caudæ,* 4½; *tarsi,* 1⅝.
Rostrum flavescenti-brunneum; *pedes* brunnei.

The ends of the secondaries are banded with black, and their external margin is silvery white.

April 14, 1835.

N. A. Vigors, Esq., in the Chair.

Mr. Gould, at the request of the Chairman, exhibited, from the collection of the President, the Earl of Derby, a specimen of a species of *Toucan*, which he regarded as hitherto undescribed. It belongs to the same group with the other *grooved-billed Toucans*, and is consequently referrible to the genus recently proposed by Mr. Gould (Proceedings, Part II. p. 147), under the name of *Aulacorhynchus*. He pointed out the characters which distinguish it from the other species of the genus, and proposed for it the name of

AULACORHYNCHUS DERBIANUS. *Aul. viridis, suprà in subaureum, ad occiput in cæruleum vergens; ptilis inferioribus flavescentibus; rectricibus duabus intermediis brunneo apiculatis; gulâ albidâ.*

Long. tot. 14½—15 unc.; *rostri*, 3⅛; *alæ*, 5; *caudæ* 5.

DESCR. Rostrum robustum, magis quam in congeneribus angulatum, ad basin (nisi culminis) lineâ albâ cinctum, nigrum in castaneum anticè posticèque transiens. Orbitæ rufescentes. Pedes saturatè plumbei.

Mr. Gould remarked that the colouring of the extremities of the tail-feathers would alone suffice to distinguish from each other the four species at present known in this genus. In *Aul. sulcatus* the tips of the tail-feathers are not marked by any peculiar colour: in *Aul. Derbianus*, the two, and in *Aul. hæmatopygus*, the four, intermediate tail-feathers are tipped with brown: while in *Aul. prasinus* the whole of the tail-feathers are tipped with brownish red.

The exhibition was resumed of the hitherto undescribed *Shells* contained in the collection of Mr. Cuming. Those brought at the present Meeting under the notice of the Society were accompanied by characters by Mr. G. B. Sowerby. They consisted of the following species and varieties of the

Genus MONOCEROS.

MONOCEROS IMBRICATUM, var. *Costis transversis, confertis, numerosis, imbricato-squamosis, squamulis ferè obsoletis: long.* 2·2, *lat.* 1·3 *poll.*

Hab. apud Terra del Fuego.

Found on rocks.—G. B. S.

MONOCEROS CRASSILABRUM, var. album. *Testâ totâ albâ: long.* 2·, *lat.* 1·4.

Hab. apud Valparaiso.

Found on rocks at low water.—G. B. S.

MONOCEROS COSTATUM. *Mon. testâ ovatâ, crassâ, albicante castaneo suffusâ; anfractibus convexis, spiraliter costatis, costis subsquamosis; spirâ brevi; labro crasso, extùs subcastaneo, intùs ruguloso; dente basali brevi: long.* 1·3, *lat.* 0·9 *poll.*

Hab. ad oras Chiliæ. (Conception.)

Found under stones at low water.—G. B. S.

MONOCEROS CYMATUM, Sow. *Mon. testâ ovatâ, crassâ, rugosâ, fuscâ nigro albidoque strigatâ et variegatâ; anfractibus quatuor ventricosis, rugis ultimi quatuor vel quinque latis, obtusis, spiralibus; spirâ exsertiusculâ; labro crasso, extùs sinuoso, intùs dentato, dentibus* 4–6 *albis: long.* 1·7, *lat.* 1·1 *poll.*

Monoceros cymatum, *Sow., in Tankerville Catalogue, No.* 1888.

Buccinum cymatum, *Solander, MS. ined.*

Icon. Monoceros lugubre, *Sow., Genera of Shells, No. V. f.* 3.—*Wood, Suppl. t.* 4. *Buccinum, f.* 11. 12.

Hab. ad littora Californiensia.

Several rows of white teeth may be seen to remain within the aperture, each of which has formed the inner edge of the outer lip at the particular period of growth to which it respectively belonged. —G. B. S.

MONOCEROS ACUMINATUM. *Mon. testâ ovato-acuminatâ, crassiusculâ, fuscescente: anfractibus quinque vel sex, ventricosis, spiraliter costellatis, costellis interstitiisque squamuliferis decussatis; labro extùs fusco, intùs albo, lævi; spirâ elongatâ, acuminatâ: long.* 2·, *lat.* 1·1 *poll.*

Hab. ad oras Chiliæ. (Baldivia.)

This may be only a variety of *Mon. imbricatum.*—G. B. S.

MONOCEROS GLOBULUS. *Mon. testâ subglobosâ, castaneâ, lævi, crassiusculâ; spirâ acuminatâ; anfractibus quatuor vel quinque, ultimo maximo, ventricosissimo; labro intùs subincrassato, albo, margine externo castaneo: long.* 1·4, *lat.* 1· *poll.*

Hab. ad oras Chiliæ. (Maulé.)

Found in the clefts of rocks.—G. B. S.

MONOCEROS PUNCTULATUM, Gray. *Mon. testâ ovatâ, crassâ, lævigatâ, albidâ punctulis numerosis castaneis spiraliter seriatis pictâ; labro incrassato, extùs crenulato, albo, intùs dentato; dentibus quinque obtusis, albidis; aperturâ intùs fuscescente: long.* 1·1, *lat.* 0·65 *poll.*

Hab. ad Insulam Cocos, Oceani Pacifici Septentrionalis.

Found on the rocks.—G. B. S.

MONOCEROS UNICARINATUM. *Mon. testâ ovato-oblongâ, crassiusculâ, albicante fusco variegatâ; anfractibus quatuor vel quinque, spiraliter costatis, interstitiis concinnè decussatis, carinâ unicâ posticâ; labri margine crenulato, intùs lævi: long.* 0·8, *lat.* 0·5 *poll.*

Hab.

MONOCEROS CITRINUM. *Mon. testâ ovatâ, crassâ, lævi, citrinâ; apice acuminato; anfractibus quinque, superioribus plerumque unicarinatis, carinâ obtusâ, ultimo gibboso; labro crasso, plerumque lævi, ætate intùs dentato, dentibus validis, albis: long.* 1·4, *lat.* 1· *poll.*

Variat *anfractu ultimo transversim costellato, costellis squamulosis.*

Hab. apud Coquimbo.

Found in the crevices of rocks.—G. B. S.

Specimens were exhibited of various *Hymenopterous Insects*, partly from the collection of the Rev. F. W. Hope, and partly from that of Mr. Westwood. They were accompanied by characters by Mr. Westwood.

Genus PLAGIOCERA, *Klug, Jahrb. fur* 1834.

PLAGIOCERA APICALIS. *Plag. fulvo-lutescens; capite viridi-nigro, antennis nigris; pedibus albidis, apice tarsorum fusco; abdominis segmentis quatuor apicalibus purpureo-nigris; alis flavidis, stigmate apiceque latè fuscis.*

Antennarum, nervorum alarum, et unguium structura ut in *Plag. thoracicâ.*

Long. corp. lin. 7¼. Exp. alar. lin. 16.

Hab. in Americâ Meridionali. Rio Janeiro.—In Mus. Dom. Hope.

Obs. Genus *Plagiocera Cimbicidas* cum *Hylotomidis* arctè conjungit.

Genus PRIONOPELMA, *Westw.* (Fam. *Chalcididæ.*)

Caput latum, anticè subtridentatum.

Antennæ 11-articulatæ; articulis 2do et 3tio fere æqualibus, minutis, reliquis 8 longitudine sensim decrescentibus.

Abdomen subsessile, oviductu corpore fere duplo longiore, vaginulis pilosis.

Pedes graciles, intermediis crassioribus cum tibiis paullo curvatis, calcari valido armatis, tarsis intermediis dilatatis.

Obs. Genus *Callimomem* (oviductu elongato) cum *Eupelmo* (pedibus intermediis) conjungens.

Obs. Genus *Phlebopenes,* Perty (Del. An. Art. Bras., 3.), cum *Callimomi* fortè conjungendum.

PRION. VIRIDIS. *Prion. aureo-viridis purpureo nitens; abdomine nitido; femoribus viridi-nigris, tibiis tarsisque obscurioribus, geniculis pedum intermediorum albidis; antennis nigris; alis pallidè fulvescentibus, in medio paullo obscurioribus, nervis fuscis.*

Long. corp. lin. 3½; oviductus, 5^{1}. Exp. alar. lin. 6.

Hab. in Brasiliâ.—In Mus. Dom. Hope.

Genus FŒNUS, *Fab.*

FŒNUS AUSTRALIS. *Fœn. piceo-niger, punctatissimus, thorace varioloso; capite anticè, thoracis abdominisque lateribus, corporeque toto subtùs piceo-ferrugineis; antennis nigris; pedibus piceo-ferrugineis,* *femoribus suprà lineâ nigrâ notatis; mandibulis elongatis, similiter dentatis, dente valido interno basali, dentibusque tribus parvis ante apicem positis; alis vix coloratis apicibus nonnihil infuscatis.*

Long. corp. lin. 7¼. Exp. alar. 9.

Hab. in Novâ Hollandiâ.—In Mus. Westw.

Genus THORACANTHA, *Latr.*

THORACANTHA FLABELLATA. *Thor. nigro-cærulea, nitida; scutello abdomen longè superante, nitidissimo, acutissimo, ad apicem in spinas duas gracillimas desinente, longitudinalitèr striato; thorace transversim striato; alis sub scutello omnino occultatis; antennis nigris* 12-*articulatis, articulis duobus basalibus fulvis, reliquis nigris et singulis (ultimo elongato excepto) ramum longum emittentibus; pedibus fulvis.*

Long. corp. (scutello incluso) lin. 2¼.

Hab. in Brasiliâ.—In Mus. Dom. Swainson.

Genus CAMPYLONYX, *Westw.* (Fam. *Proctotrupidæ.*)

Caput latum, oculis valdè prominulis, fronte emarginato.

Antennæ ♀ graciles, elongatæ, apicem versus parum incrassatæ.

Thorax valdè elongatus, continuus, collare longius quam latum.

Metathorax longus, bicanaliculatus.

Pedes antici valdè elongati, raptorii, tarsorum unguiculis maximis recurvatis.

Alarum nervi ut in genere *Anteone.*

Abdomen ovale.

OBS. A genere *Gonatopo* differt thorace continuo et alato, ab *Anteone* thoracis et antennarum structurâ.

CAMPYLONYX AMPULICIFORMIS. *Camp. niger, punctatus; abdomine lævi nitido; antennis (nisi ad basin), pedibus (nisi femoribus et tibiarum apice), collaris lateribus, marginibusque segmentorum abdominalium testaceo-rufescentibus; capite anticè obscurè flavescente; alis brevibus pallidè flavescentibus, fasciis duabus fuscis ornatis.*

Long. corp. lin. 4. Exp. alar. lin. 3.

Hab. "humi luco de Feuillent, 8 Julii, 1807," prope villam "Lyons" Galliæ.—In Mus. Com. De Jeanii.

Genus TRIGONALYS, *Westw.*

Caput magnum, planum, anticè latius.

Mandibulæ validæ, 3-dentatæ.

Palpi elongati.

Antennæ capitis cum thorace longitudine, graciles, filiformes, ad apicem attenuatæ, 24-articulatæ.

Thorax ovatus.

Abdomen convexum, anticè et posticè attenuatum, vix pedunculatum, apice incurvo.

Alæ cellulâ 1 marginali, 4 submarginalibus, quarum 1mâ majore, 2dâ elongato-triangulari, 3tiâ parvâ, nervum 2dum recurrentem excipiente.

Pedes graciles, haud spinosi, tarsis simplicibus.

OBS. Genus anomalum familiæ dubiæ. Caput et antennæ *Lydæ*, abdomen *Mutillæ*. Alarum nervi fere ut in *Myrmosâ* dispositi.

TRIGONALYS MELANOLEUCA. *Trig. nigra, punctata, subpubescens, capite anticè et lateraliter maculisque duabus parvis posticis, thorace posticè, abdominisque basi albis; alis anticis in medio fuscis.*

Long. corp. lin. 4. Exp. alar. lin. 7.

Hab. in Americâ Meridionali. Bahia.—In Mus. Brit. et Westw. Communicavit Dom. Turner.

Genus DIAMMA, *Westw.* (Fam. *Mutillidæ.*)

Corpus oblongum, nitidum, apterum.

Caput subhorizontale, fere rotundatum.

Mandibulæ elongatæ, curvatæ, graciles, dentibus tribus minutis internis.

Antennæ breves, convolutæ, ad apicem graciliores.

Thorax elongatus, binodosus.

Abdomen elongatum, convexum, segmentis basalibus subcoarctatis.

Pedes breviusculi, spinosi.

OBS. Genus *Myrmecodi* affine.

DIAMMA BICOLOR. *Diam. niger, purpureo cyaneoque nitens; antennis, pedibus, mandibulisque rufis, his ad apicem nigris.*

Long. corp. lin. 9½.

Hab. in Novâ Hollandiâ.—In Mus. Westw.

Genus MERIA, *Ill.*

1. MERIA KLUGII. *Mer. tota nigra, nitida; alis nigris, dimidio apicali purpurascente; collari oblongo-quadrato; scuto mesothoracico lineis quatuor brevibus longitudinalibus impresso; metathorace scabroso; abdomine nitidissimo, elongato; alis cellulis submarginalibus completis tantum duabus [2dâ triangulari minutissimâ in Meriis veris pedunculatâ, in hac specie obliteratâ]; aculeo longissimo.*

Long. corp. lin. 9¼. Exp. alar. lin. 12.

Hab. apud Sierra Leone.—In Mus. Dom. Hope.

2. MERIA SPINOLÆ. *Mer. nigra, nitida; capite rufo, ore antennisque nigris; abdomine utrinque maculis tribus parvis albis; alis fuscis, dimidio apicali obscuriore iridescente; tarsis piceis; alarum nervis ut in Meriis veris.*

Long. corp. lin. 7½. Exp. alar. lin. 10¾.

Hab. apud Sierra Leone.—In Mus. Westw. Communicavit Dom. Hope.

3. MERIA MILLEFOLII, *St. Farg. & Serv.*, *in Encycl. Meth.*, x. 394., a Klugio sub nomine *Mer. nitidulæ*, anno 1810, in tomo 2do libri 'Beiträge zur Naturkunde' descripta.

4. Meria rufiventris, *Klug, loc. cit., tab. iv. fig. 7.*

5. Meria Latreillei, *Fabr.*, (Bethyllus). Tiphia tripunctata, *Panz.* Tachus staphylinus, *Jur.*

6. Meria dimidiata, *Spin.* (Tachus).

Obs. Meria dichroa, *Perty, Del. An. Art. Bras., t. 27. f.* 13, haud congenerica.

The following Notes, extracted by Sir Robert Heron, Bart., from his Journal, were read.

1814.—For a good many years I have attended to the habits of *Peafowl*, and for the last eleven have written down my observations. I find the individuals to differ as much in temper as human beings: some are willing to take care of the young ones of others, whilst some have pursued and killed them, and this whether they had a brood of their own or not. Some cocks have assisted in the care of young ones, whilst others have attacked them. An early hen frequently has a brood herself the next year. Age makes no difference in the number of the brood. I have had six from a hen a year old, and one from an old hen. The hens have frequently a great preference to a particular peacock. They were all so fond of an old pied cock, that one year, when he was confined in view, they were constantly assembled close to the trellice walls of his prison, and would not suffer a japanned peacock to touch them. On his being let out in the autumn, the oldest of the hens instantly courted him, and obtained proofs of his love in my presence. The next year he was shut up in a stable, and the hens then all courted his rival; for the advances in these birds are always made by the female.

The japanned breed are, I believe, a variety originating in England. In Lord Brownlow's numerous breed of common, white, and pied, the japanned suddenly, in my memory, appeared amongst them. The same thing happened in Sir J. Trevelyan's flock of entirely the common sort; also in a breed of common and pied given by Lady Chatham to Mr. Thoroton: and in both cases to the extinction of the previously existing breed.

1821–2.—A black Poland cock, belonging to my friend and neighbour Mr. Kendall of Barnsley, was seized last winter, near the house, by a fox, but his screams being heard by the servants, he was rescued, desperately wounded, with the loss of half his feathers. In time the remainder of his feathers came off, and he is now become perfectly white. This seems to have some relation to the human hair becoming white at once from fear.

1827.—Mr. Reid, near York, has two Water Tortoises, brought over from the siege of Belleisle, which commenced in 1761: one of them, having wandered, was missing for sixteen years, when it was found on cleaning out another pond. They are both alive, and very tame.

1833, *April* 20.—This morning I found a large white Gold-fish in great distress. A large male toad had fastened itself upon the head and shoulders of the fish. On removing the toad, the fish swam away, apparently unhurt.

Colonel Sykes read a paper "On the *Quails* and *Hemipodii* of India," which he illustrated by the exhibition of a very extensive series of those *Birds*, belonging partly to his own collection, which was made in Dukhun, and partly to that of the Society, which has been enriched by specimens from various Indian localities.

The author prefaces his descriptions of the species by some general observations on generic distinctions and characters, and illustrates his remarks by commenting on some of the genera and species constituting the genus *Tetrao* of Linnæus and his followers. He shows that the form of beak alone is inadequate as a mark of generic distinction, and that the form, and number, and size of the toes and nails, are not always of themselves to be regarded as sufficient for generic characters. Passing to the characters deriveable from the combined consideration of the beak and feet, on which Brisson's system was founded, he remarks on some incongruous associations which were thereby occasioned. Size, the most convenient mode (in his estimation) of distinguishing the *Quails* from the *Partridges*, cannot, he remarks, be admissible as affording adequate grounds for generic distinction. Habits, also, present many difficulties in defining associations into genera; those assigned by authors to an entire group belonging frequently to only one or a few of the species included in it, while in some cases, such as that of the *common Quail*, the habits differ in different localities; that bird being in Europe migratory, while in India (and probably in China also) it is stationary: its solitary habits, except at a particular season, are preserved in India, but its evident congener, the *Cot. textilis*, is never flushed without a second being found within a few paces. Plumage, although in many genera there is an evident tendency to assume a particular livery, is evidently unsuitable for general adoption as affording adequate grounds for generic distinction, however useful it may be in the discrimination of species.

After passing in rapid review the genera adopted by M. Temminck in the family of *Tetraonidæ*, and offering brief remarks on the validity of the several groups, Colonel Sykes proceeds to state that having felt himself disappointed in his attempts to form a just and precise estimate of generic differences from external characters only, he sought in internal organization, in the form of the tongue, and in the colour of the *irides* for additional guides and evidences of affinities or dissimilarities. As regards the former of these, he turned his attention principally to the stomach, the *cæca*, the proportional length of the *cæca* to the intestine, and the proportional length of the intestine to the body. Notes of these several particulars, as observed by him in India in nearly two hundred species of animals, are now in his possession; from which he extracts and arranges in a tabular form such as relate to the *Quails* and *Hemipodii*, and, by way of further illustration, such also as relate to some species of *Perdix*, *Francolinus*, *Columba*, and *Pterocles*.

Colonel Sykes then describes in detail the following species, accompanying his descriptions by observations on their habits, and on such other points connected with them as appear to him to be interesting.

Genus *Coturnix*.

1. *Coturnix dactylisonans*, Mey.
2. *Coturnix textilis*, Temm.
3. *Coturnix erythrorhyncha*, Sykes, in Proc. Comm. Sci. Zool. Soc., Part II. p. 153.—(Perdix, *Mey.*)
4. *Coturnix Argoondah*, Sykes, Ibid.—(Perdix, *Mey.*)
5. *Coturnix Pentah*, Sykes, Ibid.—(Perdix, *Mey.*)

Genus *Hemipodius*.

6. *Hemipodius pugnax*, Temm.
7. *Hemipodius Taigoor*, Sykes, Ibid., p. 155.
8. *Hemipodius Dussumier*, Temm.

April 28, 1835.

William Yarrell, Esq., in the Chair.

The Chairman exhibited a portion of the vertebral column of a *Sole, Solea vulgaris,* Cuv., which had been sent to him by Sir Thomas Phillipps, Bart., for the purpose of illustrating the manner in which reunion takes place after fracture of the long spinous processes of the caudal *vertebræ*. Each end of the fractured bones is enlarged, and appears to have become a new centre of ossification, from whence processes have been sent out to join the neighbouring one; and where, as in this instance, several adjoining bones have partaken of the injury, the new processes have, in more than one place, united the broken portion, not to that with which it was originally connected, but to the bone immediately preceding or following it: the new bone exhibiting no appearance of disease, but possessing altogether a healthy character.

Mr. Gray exhibited a specimen of a *Toad,* which he had recently received from Swan River, whence it was sent to him by Joseph Wright, Esq. Believing it to be hitherto undescribed, he characterized it as the

BOMBINATOR AUSTRALIS. *Bomb. brunneus; fronte, superciliis, guttis dorsi sparsis, vittâ lumbari, maculâ ad basin artuum alterâque ad basin pedum, maculisque majoribus irregularibus mentalibus ventralibusque flavis.*

Hab. in Australiâ.

The back is generally smooth, and has some small smooth tubercles arranged along it in longitudinal series. The toes are four in number on the anterior feet, and five on the posterior: they are slender, free, and unequal.

Mr. Gray remarked, that the form of *Toad* to which the name of *Bombinator* has been given had not previously been met with beyond the limits of Europe; and added, that this Australian species agreed with the European, not only in the essential characters of the group, but in the tone and nature of its colouring, and was only specifically distinguishable by the mode in which the markings were distributed on its surface.

Mr. Gray also exhibited some specimens of the genus *Echinus,* as restricted by Lamarck and modern authors; and proceeded to explain his views with regard to its subdivision into what he considers four natural genera, adapted to facilitate the distinction of the species of this extensive group. He regards this distinction as of the more importance, in as much as some of the characters which had been used for this purpose, such as the number of the *tesseræ*, and of the pores in the *ambulacra*, have been found to be inconstant; the number of these increasing, as they are now known to do, with the age of the specimens. He proposed to divide the *Echini* as follows:

Genus 1. ARBACIA.

Corpus depressum.
Areæ ambulacrorum angustissimæ: *ambulacra* angusta, recta, singulo e serie simplici tesserarum biporosarum superpositarum efformato.
Tesseræ ovariales et *interovariales* mediocres.
Anus valvis quatuor spiniferis tectus.

This genus corresponds with *Echinus* section A. of M. de Blainville, and contains *Arbacia pustulosa* (*Echinus pustulosus*, Lam.), *Arb. punctulata* (*Ech. punctulatus*, Lam.), &c.

Genus 2. SALENIA.

Corpus subsphæricum.
Areæ ambulacrorum angustissimæ: *ambulacra* angusta, recta, singulo e serie simplici tesserarum biporosarum superpositarum efformato.
Tesseræ ovariales et *interovariales* maximæ.
Anus subexcentricus.

This genus is known only in the fossil state, and has hitherto even been confounded with *Cidaris*, but its tubercles are not pierced. It comprehends *Salenia scutiger* (*Cidaris scutiger*, Munst., Goldf. Petref., t. 49. f. 4.—Park., Org. Rem., t. 12. f. 13.; *Echinus petaliferus*, Desm.) and two or three other allied species in Mr. Gray's collection.

Genus 3. ECHINUS.

Corpus plus minusve depressum.
Areæ ambulacrorum latitudine dimidium arearum extraambulacralium æquantes: *tesseræ ambulacrales* tripliciter biporosæ.
Tesseræ ovariales et *interovariales* mediocres.
Anus subcentralis, squamosus; squamis spiniferis.

The ambulacral *tesseræ* in this genus may be regarded as being each composed of three doubly pierced pieces: of these the upper is placed in the middle of the upper edge of the *tessera*; the next below it, on the middle of the outer edge; and the lowest on the lower part of the inner edge of the plate: so that when the plates are together, forming the *ambulacra*, the pores appear to form oblique lines, each composed of three double pores, the inner upper double pore of each line belonging to the plate above the other two double pores.

This genus contains the sections B*. C. E. and G. of M. de Blainville. The species may be divided into two very distinct sections, thus:

1. *Ambulacris angustioribus: poris mediocribus approximatis.*
   a. *Ore subintegro.*

Of this section *Ech. esculentus* may be regarded as the type.

On this species Mr. Gray incidentally remarked that it is extremely variable in shape, becoming very high and subconical in the adult age, when it is *Ech. Melo*, Lam.; and being often subangular, in which condition it is *Ech. subangulosus*, Ejusd.

b. *Ore profundè inciso.*

Ech. excavatus, Lam.; *Ech. Pileolus*, Lam.; &c.

2. *Ambulacris latis: poris inter se tuberculis parvis sejunctis ore 5-inciso.*

Ech. ventricosus, Lam.; &c.

Genus 4. ECHINOMETRA.

Corpus plus minusve depressum, sæpè oblongum.

Areæ ambulacrorum mediocres: *tesseræ ambulacrales* quinquariam vel ultra biporosæ.

Tesseræ ovariales et *interovariales* mediocres.

Anus subcentralis, squamosus; squamis sæpe spiniferis.

In this genus the ambulacral plates may be considered as being composed of five or more doubly pierced pieces, which form an arched line round the outer edge of the *tessera*, with a single pair of pores at its lower inner angle.

The spines with which the species of this genus are furnished are often of very unequal size, and they are of very variable form, some of the larger ones being very long, as in *Echinometra trigonaria*; and others very short and truncated, as in *Ech. atrata*.

Mr. Gray stated that he had formerly separated from the *Echini* some of the species of this genus which are peculiar for their oblong form, and that the genus so proposed by him had been adopted by M. de Blainville; but a much more extended examination has convinced him that individuals of the same species vary from roundish to oblong: and, therefore, having observed many round species agreeing with oblong ones in the peculiar character of the *ambulacra*, he has united them to the former, under the same name. It is to be remarked, as throwing doubt on the bilaterality of the *Echinidæ*, attempted to be established by M. Agassiz, that the spongy ovarial plate which that gentleman regarded as the mark of the hinder part of the *Echinidæ*, is always placed on one side or the other of the longer axis of the oblong species.

This genus will contain sections B**. D. and F. of M. de Blainville, as well as the *Echinometra* of that author, and many new species which are as yet undescribed.

Mr. Gray subsequently exhibited a specimen of a new genus of *Corals*, which he had recently received from the coast of Montserrat in the West Indies. The coral in question is formed almost entirely of rather large transparent rough fusiform *spicula*, which are irregularly placed side by side along the stems, and are imbedded in the animal matter: the *spicula* are so abundant as to render the coral very hard, and to give it much of the appearance of a mass of arragonite, of which it has also the form. Its stem is irregularly cylindrical, rather crooked, and slightly tapering: it throws off a rather thinner branch a little below the middle of the main stem; and both the main stem and its branch end in a hemispherical head, the upper surface of which is covered with forty or fifty rather large conical tubercles, each terminating in a small central mouth. These tubercles are formed of *spicula* resembling those of the stem, the points of which arm the *apices* of the cones. The central cones are the largest and most distinct, and the marginal ones are smaller, and more or less confluent. The stem when broken exhibits similar *spicula* and a few internal cells, but it has no distinct central *axis*: the conical tubercles of the head are hollow, and they doubtless inclose and give exit through their central mouths to the *Polypes* which form the coral.

This coral appears to be most nearly allied to the genus *Zenia* (of which *Alcyonium floridum* of Esper is the type), and agrees with it in having no distinct *axis*, and in having the whole surface covered with large *spicula*, and the *Polypes* protruded from tubular cells at the end of the branches. It differs, however, from that genus in its *spicula* being much more abundant, and the coral consequently more solid, and by no means spongy; and in being less branched, with the polype-cells forming a hemispherical head, instead of a bunch of small branches. For these reasons Mr. Gray is led to consider it as forming a new genus, which, until the animal is known, he is induced to place next to *Zenia*, with the following characters:

Genus NIDALIA.

Corallium fixum, cylindricum, subramosum, subsolidum, spiculis calcareis densè indutum; apice capitato, hemisphærico, e papillis conicis inæqualibus spiculiferis formato.

NIDALIA OCCIDENTALIS. *Nid. corallio albido, subramoso.*

Hab. in littore Oceani Atlantici apud Montserrat in Indiâ Occidentali.

The specimen described is now in the collection of the British Museum.

May 12, 1835.

N. A. Vigors, Esq., in the Chair.

A letter was read, addressed to the Secretary by P. L. Strachan, Esq., and dated Sierra Leone, February 22, 1835. It referred to some *Alligators* sent from that country by the writer several months since, all of which died on their passage. It also stated that he had forwarded to the Society a *Mud Turtle* (*Trionyx?*), which, he hoped, would prove acceptable.

A letter was read, addressed to the Secretary by A. MacLeay, Esq., Colonial Secretary, New South Wales, dated Sydney, October 25, 1834. It stated that the writer had, in consequence of the application made to him, set on foot inquiries respecting that interesting *Bird* of New Zealand, the *Apteryx Australis*, Shaw; and that he had succeeded in obtaining a skin of it, (destitute, however, of the legs,) which he had forwarded to the Society. The specimen was exhibited.

The skin presented by Mr. MacLeay to the Society was obtained by him from the Rev. W. Yate, who writes to him as follows, dated Waimate, March 10, 1834: "About six weeks ago I had one of these birds in my possession, the second I have seen in the Land. I kept it nearly a fortnight, and in my absence it died. One of my boys took off the skin; the legs rotted off. I have very great pleasure in sending you the skin as it is. Should I ever meet with another, I will do all I can to preserve it for you. Its food is long earth-worms. It strikes with its bill on the ground, and seems to know by the sound where its prey lies. It then thrusts its bill into the ground, draws up the worm, and swallows it whole and alive. They kick very hard, and their legs are remarkably strong for the size of the bird. They are very rare in New Zealand, but are found in the greatest numbers at Hiku Rangi, the mountain which you mention."

Mr. MacLeay adds, that he has applied to other friends on the subject, and that, should he succeed in procuring further information, he will communicate it to the Society.

He concludes by expressing his intention of forwarding to the Society the white-fleshed Pigeon of the Colony, which, he conceives, would be a great acquisition in England: it is certainly, he says, far superior to Partridge.

Colonel Sykes, in illustration of the extended geographical distribution of some species of *Birds*, called the attention of the Meeting to a collection of *Bird-skins,* formed at the Cape of Good Hope by Captain Spiller, R.A., and presented by that gentleman to the Society. The principal object had in view was the demonstration of the identity of many species of *Birds* existing in Southern Africa, with those which Colonel Sykes had himself obtained in Dukhun. By the juxtaposition of the Cape *Birds*, and of those killed by himself in India, he showed that the following species exist equally in both those countries: several of them are also common to Europe.

Falco Tinnunculus, Linn.—South Africa, India, and Europe.
Milvus Govinda, Sykes.—South Africa and India.
Strix Javanica, Horsf.—*Strix flammea*, Linn.? Universal?
Alcedo rudis, Linn.—South Africa and India.
Oriolus melanocephalus, Linn.—South Africa and India.
Coracias Indica, Linn.—South Africa and India.
Upupa minor, Shaw.—South Africa and India.
Cinnyris Mahrattensis, Cuv.—South Africa and India.
Ardea Caboga, Penn.—South Africa, India, and Europe.
Nycticorax Europæus, Steph.—South Africa, India, and Europe.
Limosa Glottoides.—South Africa and India.
Gallinago media, Ray.—South Africa, India, and Europe.
Rhynchæa Capensis, Steph.—South Africa and India.
Cursorius Asiaticus, Lath.—South Africa and India.
Himantopus melanopterus, Horsf.—Universal.

Colonel Sykes remarked that he had previously, while illustrating his 'Catalogue of the Birds of Dukhun', read before the Committee of Science and Correspondence in 1832, shown the specific identity of many European and Indian *Birds*, especially in the orders *Grallatores* and *Natatores*.

"Some account of a hybrid *Bird* between the cock *Pheasant*, *Phasianus Colchicus*, Linn., and the *grey Hen*, *Tetrao Tetrix*, Ej., by Thomas C. Eyton, Esq.," was read. It was illustrated by the exhibition of the preserved skin of the bird, and also of a drawing made from it.

"For some years past a single *grey Hen* has been observed in the neighbourhood of the Merrington covers, belonging to Robert A. Slaney, Esq., but she was never observed to be accompanied by a *black Cock*, or any other of her species. In November last a bird was shot on the manor adjoining Merrington, belonging to J. A. Lloyd, Esq., resembling the *black game* in some particulars, and the *Pheasant* in others. In December another bird was shot in the Merrington covers, resembling the former, but smaller: it is now in my collection, beautifully preserved by Mr. Shaw of Shrewsbury.

"The hybrid bird in my possession, which is a female, may be thus shortly described:

"*Tarsi* half-feathered, without spurs, of the same colour as in the *Pheasant*. Bill resembling that of the *Pheasant*, both in colour and shape. *Irides* hazel. Crown and throat mottled black and brown. Neck glossy black, with a tinge of brown. Breast of nearly the same colour as that of the cock *Pheasant*, but more mottled with black. Tail of the same colour as in the *grey Hen*; centre tail feathers longest; under tail coverts light brown.

"The plumage of this bird is very curious; as some parts of it resemble either sex of both *black game* and *Pheasant*.

"I had an opportunity of examining the body after it was taken from the skin, and of comparing it with the *black game* and the *Pheasant*.

"The following are some remarks which I made on its anatomy:

"Left oviduct very imperfect; the ovaries very small; the eggs scarcely perceptible, and very few in number.

"The *sternum* approaches nearer to that of the *black Grouse* than of the *Pheasant*; but the bone is not so massive, the anterior edge of the keel is more scolloped, and the bone between the posterior scollops is not so broad as in the *black game*.

"The *os furcatorium* is that of the *Pheasant*, being more arched than in the *black game*, and having the flat process at the extremity next the *sternum* broader.

"The *pelvis* is exactly intermediate between the two, having more solidity, and being both broader and longer than in the *Pheasant*; but resembling that of the *Pheasant* in having the two processes on each side of the caudal *vertebræ*, which serve for the attachments of the levator muscles of the tail.

"The subjoined Table shows some comparative measurements between the hybrid bird in question, the cock *Pheasant*, and the *grey Hen*.

	Grey Hen.		Hybrid Bird. Female.		Male Pheasant.	
	Ft.	In.	Ft.	In.	Ft.	In.
Length of the *tarsus*	0	$2\frac{2}{10}$	0	$2\frac{3}{4}$	0	$3\frac{1}{10}$
Length of the middle toe	0	$2\frac{1}{10}$	0	$2\frac{1}{2}$	0	$2\frac{2}{10}$
Expansion of the wings.........	2	0	2	2	2	$4\frac{1}{2}$
Length of the middle tail feathers	0	4	0	$7\frac{1}{2}$	1	$7\frac{1}{4}$
Length of the intestinal canal from vent to gizzard	4	2	3	$5\frac{1}{2}$	4	0
Length from the vent to the *cæca*	0	6	0	$5\frac{1}{4}$	0	$4\frac{1}{2}$
Length of the *cæca*	2	0	2	0	0	$8\frac{1}{2}$

Mr. Gray exhibited, from his own collection, specimens of a *Coral*, known to some of the English residents at Canton by the name of the *Glass Plant.* He stated that it appeared to him to be most nearly related to *Gorgonia*, although it differed widely from that genus by its axis consisting, not of a single calcareous stem, but of a congeries of almost innumerable siliceous filaments, slightly twisted together into the form of a rope. Each of these filaments, however, is composed, like the stem of *Gorgonia*, of very numerous concentric *laminæ*, which are easily separated from each other by exposure to heat, such as the flame of a candle, when the fibre splits down one side, leaving the inner *laminæ* exposed. Near their upper extremity the filaments have a wrinkled appearance, and are furnished with numerous barbs, directed backwards; towards the base they taper gradually, and become much attenuated. The crust bearing the polypes surrounds the mass of siliceous filaments, and a thin portion of it probably envelopes each of the component filaments of the rope, as it may be termed: the bark is of a leathery substance, and includes a number of small *spicula*: its outer surface is sandy: it is furnished with large, distinct, flat-topped tubercles, from which the polypes are doubtless emitted, as they are from the somewhat similar tubercles of the bark of the genus *Eunicea.* Towards the lower end of the stem the crust is discontinued; and this part is imbedded in a species of *Sponge*, which, if essential to the coral, is, however, independent of it, the sponge occurring without the coral, but the coral not having yet been found without the sponge. The coral seems to be affixed only by the intervention of the sponge, and is not flattened out at the base, like *Gorgonia*, for attachment to other bodies. In *Pennatula*, which is affixed by the insertion of its lower undilated end into yielding substances, the polypiferous crust is continued to the extremity of the stem, and does not cease, like that of the *glass-rope Coral*, at the point of immersion.

Mr. Gray remarked that this *Coral* is peculiar, as being the only body, the animal nature of which is undoubted, that is yet known to secrete silica; the *spicula* and *axis* of all other *Corals* which have fallen under his observation being purely calcareous: he has not, however, yet had an opportunity of examining the *Gorgonia Briareus*, the axis of which is described by Ellis as consisting of numerous little purple glossy needles, but in the nearly allied *Alcyonium asbestinum* (the *spicula* of which closely agree with this description) he has ascertained that the *spicula* are calcareous. In the siliceous nature of its *spicula* the *Coral* in question agrees with some of the *Sponges*, *Tethyæ*, &c.

Mr. Gray stated that this curious production had occupied much of his attention several years since, and that he had delayed the publication of his views respecting it, in the hope of being enabled, by the acquisition of more copious materials, to clear up some points which did not appear to him to be, at that time, capable of satisfactory elucidation. He characterized it as the type of a new genus.

HYALONEMA.

Corallium simplex, subcylindricum, ad basin attenuatum et in *Spongiâ* immersum, supra basin cortice coriaceo tuberculato tectum; tuberculis sparsis, depressis, polypiferis. *Axis* e spiculis numerosis, elongatis, filiformibus, subcontortis, siliceis constans.
Polypus ignotus.

HYALONEMA SIEBOLDI.
Hab. apud Japoniam, *Dr. Siebold.*

Specimens are contained in the British Museum, to which they were presented by John Reeves, Esq.; in the Museum at Leyden; and in the collection of Mr. Gray; the latter having been purchased from the Dutch Museum, through the kindness of Dr. De Haen. A few fibres of the axis formed part of the Sloanean Collection, when it was originally acquired for the British Museum, but their nature was altogether unknown.

May 26, 1835.

N. A. Vigors, Esq., in the Chair.

A letter was read, addressed to Mr. Vigors by Philip Poole, Esq., Assistant Surgeon, Madras Medical Establishment, and dated Travancore Residency, December 17, 1834. It accompanied a collection of skins of *Mammalia*, *Birds*, and *Reptiles*, amounting in number to upwards of a hundred, which the writer presented to the Society. "The whole of the animals were obtained in the forests about twenty miles inland from Kolun or Quilon, in the Travancore country." Mr. Poole expresses his readiness to collect other objects for the Society, and calls particular attention to the "red *Mangouste*, of which," he says, "I send both male and female: they are considered a great curiosity in India, and I have been told that they are only to be found in the Travancore country."

The several *Mammalia* contained in Mr. Poole's collection were then exhibited, and Mr. Bennett brought them in succession under the notice of the Meeting. The most interesting among them, he stated, was the *Ichneumon* especially referred to by the donor, which represented a species hitherto undescribed, and differing remarkably from the usual livery of the genus. While the *Herpestes fasciatus*, he observed, deviates from the nearly universal grizzled appearance of the fur which characterizes the *Ichneumons* generally, and approaches, by the cross bands of its back and loins, to the markings of the *Suricate*, *Ryzæna tetradactyla*, Ill., the species from Travancore is equally aberrant by the possession of a longitudinal dark dash on each side of the neck, which, in some degree, seems to approximate it in point of colouring, to the *Civets*, *Civetta*, Cuv.

The almost uniform colouring of Mr. Poole's specimens, which are destitute, except on the head, of any grizzled appearance, might have been regarded as an additional deviation from the ordinary characteristics of the group; but this Mr. Bennett showed, by the exhibition of a skin which had still more recently come into the Society's possession, is by no means universal throughout the individuals of the species, the skin last referred to (which is believed to have been imported from Bombay) being grizzled, as in the other *Ichneumons*, over the greater part of its surface, and having the uniform red colour limited to the extremity of the back and the contiguous part of the tail. Notwithstanding this discrepancy in the colouring, he stated his conviction that the Bombay animal belongs to the same species with those from Travancore; agreeing, as they do, in the possession of the remarkable dark dash along the sides of the neck, in the broad dark tip of the tail and the uniform red of its base, and in the general proportions of the body.

He characterized the species in question as the

Herpestes vitticollis. *Herp. grisea aut rubra; caudâ ad basin rubrâ ad apicem latè nigrâ; artubus vittâque ab aure ad scapulam ductâ nigris.*

Long. corporis cum capite 22 unc.; *caudæ* (sine pilis), 12½.

Hab. in Indiæ Orientalis partibus Austrum spectantibus.

Mr. Bennett stated his intention of giving a detailed description of this new species in some "Observations on the genus *Herpestes*, Ill.," which he was about to prepare, and in which he proposed to advert to the other *Ichneumons* in the Society's possession. He added, that a living individual of *Herp. fasciatus* had lately been, for a short time, in the Society's Menagerie, on its way to the collection of the President, the Earl of Derby, at Knowsley.

A skin was subsequently exhibited of a *Mammiferous* animal, which had lately been added to the Society's collection, and which Mr. Bennett regarded as the representative of a second species of his genus *Lagotis*. He pointed out the marks by which it is distinguished from the species on which the genus was originally proposed by him, and which was described in detail in the 'Transactions', vol. i. p. 35, and proposed for it, in allusion to one of the most striking of them, the name of *Lag. pallipes*. Its occurrence, he remarked, renders it necessary to characterize the two species of the

Genus Lagotis.

1. Lagotis Cuvieri, Benn. *Lag. auriculis caput longitudine æquantibus; vellere longiore; caudæ setis albidisque nigrisque; pedibus cinereis.*

Long. corporis cum capite 16 unc.; *caudæ* (præter pilos), 11½; *auriculæ*, 2¾; *pedis postici*, 3½.

Hab. in Peruviâ?

2. Lagotis pallipes. *Lag. auriculis capite subbrevioribus; vellere brevi; caudæ setis ferrugineis; ventre pedibusque fulvescentibus, his pallidioribus.*

Long. corporis cum capite 15 unc.; *caudæ* (præter pilos), 11; *auriculæ*, 2¼; *pedis postici*, 3.

Hab. in Chiliæ montosis.

Mr. Bennett stated his intention of preparing, in consequence of the acquisition of this specimen, a short paper, which he proposed to entitle "Additional remarks on the Genus *Lagotis*, with some account of a second Species referrible to it."

Mr. Reeve exhibited specimens of two *Shells*, which he regarded as previously undescribed, and compared them with the species most nearly related to them, which he also exhibited.

The first of them is characterized by Mr. Lake as follows:

Cypræa subviridis. *Cyp. testá ovatá, pyriformi, subventricosá; dorso convexissimo, subviridi, fasciis duabus tribusve latis, fulvo brunneoque variè picto; basi convexá, pallidá; margine subincrassato, rufescenti-brunneo, extremitates versùs subproducto; ore lineari, sublato, posticè recurvo, dentibus submagnis subdistantibus, columellá convexá: long.* 1⅜, *lat.* ¾, *alt.* ½ *poll.*
Hab.

This shell seems to partake of the characters of *Cyp. Errones* and *Cyp. pallida*; having for the most part the colouring and marking of the former, and the form of the latter: it is, however, specifically distinct from either. It is of a ventricose pyriform shape; the back is of a light green colour, variously painted with yellowish brown; and the margin is of a reddish brown colour, darker towards the extremities.—L.

The second species is thus characterized by Mr. Reeve:

Lucina rugifera. *Luc. testá rotundatá, lenticulari, convexiusculá, albicante spadiceo-rufescente concentricè subfasciatá; striis radiatis elevatis aliisque concentricis rugosá; intùs albá; ano trigono, impresso, minimo: long.* 2¼, *lat.* 2, *alt.* 1 *poll.*
Hab. ad oras Novæ Hollandiæ.

This shell is closely allied to *Luc. tigerina*, (*Cytherea tigerina*, Lam.,) and appears at first sight to be the var. 3 of that species (Lam., Anim. sans Vert., nouv. ed., p. 219): but upon examination it is found to differ, principally in the longitudinal *striæ* being more elevated, and crossing the transverse *striæ*, and in the interior being perfectly white: it is also from a very different locality. There is in the collection of Mr. Cuming a specimen of the variety of *Luc. tigerina* above mentioned which answers exactly to Lamarck's description.—L. A. R.

Specimens were exhibited, partly from the collection of the Rev. F. W. Hope, and partly from that of Mr. Westwood, of various *Hymenopterous Insects*, which Mr. Westwood regarded as new to science. They were accompanied by the following characters by Mr. Westwood:

Genus DIRHINUS, *Dalm.*

DIRHINUS MAURITIANUS. *Dir. æneo-niger; capite thoraceque crassè punctatis, illius cornubus brevioribus obtusis; antennis nigris articulo* 1*mo ad basin et apicem piceo; tibiarum quatuor anticarum apicibus tarsisque omnibus testaceis; scutello in medio læviusculo; metathorace longitudinaliter 4-costato et utrinque angulato; abdomine nigro nitido, subtùs* (♀) *fornicato.*
Long. corp. lin. 2. Exp. alar. lin. 3.
Hab. in Insulâ Mauritii, *Dom. Templeton.*

Genus METAPELMA, *Westw.* (Fam. *Chalcididæ.*)

Thorax ante alas elongatus, declivis.
Antennæ graciles, fere thoracis longitudine, apicem versus paullo crassiores, apice ipso obliquè truncato.
Abdomen compressum, oviductu exserto, abdominis longitudine.
Pedes intermedii longiores, femoribus paullo retrò-curvatis, tibiis calcari longo instructis, tarsis vix dilatatis subtùs ciliatis, articulo 1mo longiore: *postici* crassiores, tibiis tarsorumque basi valdè dilatatis compressis.
OBS. Genus *Eupelmo* affine.

METAPELMA SPECTABILIS. *Met. capite thoraceque viridibus cupreo nitentibus; antennis nigris; abdomine nigro, chalybeo purpureoque nitente; pedibus quatuor anticis ferrugineis viridi subnitentibus; tarsis intermediis fuscis ad basin albidis; pedibus duobus posticis fuscis, femoribus basi rufis, tibiis basi albis; oviductu nigro; alis pone medium nubeculâ vix infumatis.*
Long. corp. lin. 2¼; oviductûs, lin. 1. Exp. alar. lin. 3¾.
Hab. in Georgiâ Americæ.—In Mus. Brit.

Genus SCHIZASPIDIA, *Westw.* (Fam. *Chalcididæ.*)

Corpus breve, crassum.
Antennæ breves, crassæ, 13-articulatæ, articulis 2do et 3tio fere æqualibus, 4to–10mum釋 internè serratis, reliquis tribus in unum coalitis.
Scutellum magnum, posticè supra abdomen productum et ejus dimidium basale superans, ad apicem furcatum.
Abdomen thorace paullo majus, suprà planum, pedunculo (fere tertiam partem abdominis longitudine æquante) ad thoracem affixum.
OBS. *Perilampum* (habitu) cum *Eucharide* (scutello armato) conjungens.

SCHIZASPIDIA FURCIFER. *Schiz. ænea; thoracis parte anticâ transversim striatâ; scutelli lateribus longitudinaliter sulcatis; abdo-*

minis dimidio basali cæruleo, apicali fulvo; antennis pedibusque fulvescentibus; alis maculâ substigmaticali fuscescente.

Long. corp. lin. 2¾. Exp. alar. lin. 4½.

Hab. apud Bengaliam.—In Mus. Brit.

Variat magnitudine minore; antennis profundiùs serratis; thorace magis sulcato; abdomine toto fulvo. (An sexus alter? ♂?)

Genus Pentacladia, *Westw.* (Fam. *Chalcididæ.*)

Eulopho affinis: differt antennis 9-articulatis, articulo 2do parvo, 3tio–7mum ramum longum emittentibus, 8vo 9noque majoribus oblongo-ovalibus; abdomine compresso.

Pentacladia elegans. *Pent. splendidè purpureo-cærulescens, antennis obscurioribus.*

Eulopho ramicorni dimidio longior.

Hab. ?—In Mus. Com. Dejean (olim Latreillii).

Genus Chalcitella, *Westw.* (Fam. *Chalcididæ.*)

Antennæ ad os insertæ, 12?–13?-articulatæ, articulo 2do brevi, 3tio et sex sequentibus paullo majoribus, valdè continuis, reliquis tribus vel quatuor massam elongato-conicam efformantibus.

Metathorax valdè declivis.

Pedunculus dimidium abdominis longitudine æquans, gracilis, cylindricus.

Femora intermedia ad basin gracilia, ad apicem subclavata; coxæ posticæ crassæ, longæ; femora postica maxima, subtùs 7-dentata.

Obs. Genus *Chalcidibus* typicalibus (ex. gr. *Sispes*) affine.

Chalcitella Evanioides. *Chalc. nigra, punctata; abdomine compresso, nitido; antennarum basi, geniculis et interdum pedunculo piceis; tibiis tarsisque magis testaceis.*

Long. corp. lin. 1¼. Exp. alar. lin. 2.

Hab. in Insulâ Mauritii, *Dom. Templeton.*

Genus Macroteleia, *Westw.* (Fam. *Proctotrupidæ.*)

Corpus longissimum, lineare.

Caput rotundatum, thoracis latitudine.

Antennæ in utroque sexu thoracis longitudine, 12-articulatæ, ♂ articulis fere æqualibus, submoniliformibus, ♀ articulis sex terminalibus clavam crassam oblongam efformantibus.

Thorax ovatus: *scutello* inermi.

Alæ abdomine multo breviores, nervis ut in genere *Pteromalo* dispositis.

Abdomen fere sessile, longissimum, longitudinaliter striatum, seg-

mentis quatuor basalibus æqualibus, depressum, marginatum; in ♀ longius et posticè valdè attenuatum: *oviductu* retracto.
Obs. Genus *Teleadi* affine.

Macroteleia Cleonymoides. *Macr. nigra; abdomine piceo; antennarum basi pedibusque rufescentibus; (♂): ♀ picea; capite antennarumque clavâ nigris; abdomine testaceo, apice nigro.*
Long. corp. ♂ lin. 1⅞, ♀ 2⅜. Exp. alar. lin. 2½.
Hab. in Insulâ Mauritii, *Dom. Templeton.*

Genus Anodontyra, *Westw.* (Fam. *Scoliidæ.*)

Corpus elongatum: *abdomen*, articulis continuis, oblongo-ovatum, ad apicem inerme.
Antennæ graciles, 13-articulatæ, articulo 2ndo discreto, ♂.
Mandibulæ dente valido interno ante apicem armatæ.
Palpi maxillares elongati, 6-, labiales 4-articulati.
Alarum nervi fere ut in *Tengyra Sanvitali* dispositi.
Obs. *Tengyris* affinis: statura minus elongata quam in *Tengyris* et *Myzinibus* ♂.

Anodontyra tricolor. *An. nigra; collari anticè flavo lineato; segmentis abdominalibus 2do, 3tio et 4to ad marginem posticum flavo interruptè marginatis, subtùs etiam maculâ parvâ laterali ejusdem coloris notatis; tibiis tarsisque testaceis; alis fulvo-testaceis, ante apicem nubilo fuscescenti notatis.*
Long. corp. lin. 8¼. Exp. alar. lin. 14½.
Hab. in Chili.—In Mus. Dom. Hope.

Genus Sericogaster, *Westw.* (Fam. *Vespidæ*?)

Caput magnum, planum, quadratum: *oculi* integri, ovales.
Antennæ (♀) capite non longiores, in medio faciei insertæ, geniculatæ, 12-articulatæ, articulo 1mo longo, reliquis valdè continuis.
Labrum corneum, triangulare.
Mandibulæ mediocres, ante medium et sub apicem internè excisæ.
Maxillæ et *Mentum* elongatæ: *palpi maxillares* 6-, labiales (breviores) 4-articulati.
Labrum e lobis duobus parvis carnosis constans.
Thorax brevis: *scutello* haud elevato.
Abdomen ovale, subdepressum, segmentis continuis.
Pedes breves, antici (♀) haud fossorii, tibiis posticis spinosis.
Alæ anticæ cellulâ 1 marginali subappendiculatâ, cellulis 2 submarginalibus completis quarum 2dâ nervos duos recurrentes recipit.
Obs. Genus quoad affinitates dubium. *Ceramium* (habitu) *Philanthis* vel potius *Sapygis* (structurâ orali) quasi conjungens.

Sericogaster fasciatus. *Ser. niger; scutello, antennis, pedibusque rufescentibus; femoribus posticis ad basin apiceque antennarum piceis; abdominis segmentis flavo irregulariter marginatis.*
Long. corp. lin. 4¾. Exp. alar. lin. 6¼.
Hab. in Novâ Hollandiâ.—In Mus. Dom. Hope.

Genus Dorylus, *Fabr.*

Dorylus Orientalis. *A* Dor. helvolo *distinguitur, staturâ paullo graciliore, nervo recurrenti alarum anticarum pone medium areolæ submarginalis inserto, nervisque binis internis (posticarum) nervis duobus transversis connexis.*
Hab. in Indiâ Orientali.—In Mus. Westw. Communicavit Dom. W. W. Saunders, F.L.S.

Mr. Owen read a paper "On the Anatomy of *Distoma clavatum*, Rud.," an *Entozoon* of an intermediate grade of structure between the two subjects, *Trichina* and *Linguatula*, which he has recently brought under the notice of the Society: the one manifesting simply a homogeneous granular pulp enveloped in a transparent, thin, elastic tegument; and the other having distinctly developed nervous *ganglia* and filaments, a muscular tunic, a digestive canal contained in an abdominal cavity, ovaries, oviduct, and fecundating glands.

The specimen of *Dist. clavatum* examined by Mr. Owen measured 2 inches and 2 lines in length, and 1¼ inch in circumference at its thickest part. Its outer integument was thin, crisp, and semitransparent; transversely and minutely wrinkled, and evidently fibrous in the same direction; and adhering but slightly, at least after maceration in spirit, to the succeeding layer. This latter tunic was evidently muscular, and was composed of longitudinal fibres: it adhered pretty closely to the membrane immediately inclosing the cellular *parenchyma* of the body, but was separable from it by careful manipulation. The muscular tunic was beautifully ornamented by tortuous vessels containing a dark-coloured fluid.

The anterior orifice is surrounded by a muscular sphincter, forming a suctorious disc, at the bottom of which is a minute orifice leading to the digestive tubes. These are two in number, and are continued, slightly enlarging and diverging from one another, to the cells at the posterior part of the body.

The large cup-like cavity, about 3 lines posterior to the anterior end of the animal, is simply for adhesion, and has no communication with the interior of the body; but immediately in front of it is a small transverse slit, concealed by the wrinkles of the integument, which forms the outlet of the generative organs.

At the posterior extremity of the body there is a minute central orifice, leading into a narrow cavity formed between two layers of a villous membrane, extending vertically across the terminal dilated part of the animal. Between this cavity and the rest of the body no communication could be detected, on the most minute inspection. Its internal surface is of a yellowish white colour, and smooth. Its function is probably excretory, and it may, therefore, be regarded as exhibiting a rudimentary condition of the respiratory system. On each side of it is a large lateral cavity, internally black and minutely wrinkled, and filled (in the individual examined) with a dark brown fluid, similar in appearance to partly digested blood. This nutriment is conveyed to the lateral cavities by the intervention of the smaller cells anterior to those from the two alimentary canals leading from the mouth, and is distributed into the dark-coloured vessels of the muscular tunic: so that the lateral cavities, analogous to those which have been considered as chyle-receptacles in *Amphistoma*, &c., hold an intermediate position between the alimentary and the sanguiferous canals. The cells at the smaller end of the body were occupied by a yellow fluid, containing numerous *ova* of the same colour, many of which had thence passed into the tortuous oviduct.

Distoma is thus seen to possess, in addition to the cellular *parenchyma* of the body, the three systems of canals, digestive, vascular, and generative, which are usually met with in the *Trematoda*. An analogy to the *Leech* may be traced, not merely in the external suckers, but also in the form of the cells, which at the posterior part of the body communicate with, and form part of, the digestive apparatus, especially of the two last cavities, which very closely resemble the last pair of gastric *cæca* that occupy, in the *Leech*, a similar position.

The reading of the paper was illustrated by the exhibition of the animal described in it, and of drawings of its several parts.

Mr. Owen subsequently read "Some Remarks on the *Entozoa*, and on the Structural Differences existing among them; including Suggestions for their Distribution into other Classes."

The difficulty of assigning to the internal parasites of other animals a definite character, by which they may be distinguished as a class, is evident on a mere inspection of the definition proposed for the *Entozoa* by Cuvier: it rests chiefly on their *habitats*, and on certain negative properties, and attempts to combine with these a general resemblance of form. Rudolphi at one time imagined that he had overcome this difficulty, by denying to the *Entozoa* a nervous system; but he was subsequently under the necessity of regarding the *Nematoidea* as excluded from this definition, and he proposed to associate this portion of the *Entozoa* with the *Annelida*. But the possession by the *red-blooded Worms* of a distinct respiratory system would alone be sufficient to forbid this association, even if the essential character of ganglions on the nervous chords were not also present to negative it absolutely. As the *Nematoidea* differ from the *Parenchymatous Worms* by possessing a distinct nervous system as widely on the one hand, as they do from the *Annelida* in the form of that system on the other, Mr. Owen has been induced to associate them with those other classes of the *Radiata* of Cuvier which, while they are distinguished from the rest of the division by the undoubted presence of nerves, agree with the *Nematoidea* in manifesting these organs in the form of simple ungangliated disconnected chords.

The subdivision of Cuvier's *Radiata*, proposed by Mr. W. S. MacLeay, into two principal groups, the *Acrita* and the *Radiata*, may be regarded as consonant with the system of nature, although the latter, by the exclusion of the *Nematoidean Worms*, is too restricted as to its contents: the definition of the former group given by its proposer requires also modification, in consequence of the vast discoveries which have of late years been made in the organization of the animals comprised in it. Mr. Owen discusses the several characters assigned to the *Acrita*, and dwells particularly on the variations in the generative system which range from gemmation and spontaneous fission, observed only in this group in the animal kingdom; to the cryptandrous or productive form only, which occurs in the *Cystici* and *Cestoidea*; to the superaddition of a fecundating gland to the ovary, as in *Trematoda*; and to the separation of the sexes, as in the *Acanthocephala*: so as already to typify almost all the modes of generation by which the higher races of animals are perpetuated.

Mr. Owen regards the molecular and the filiform condition of the nervous system as respectively furnishing the primary characters of the *Acrita* and the *Radiata*; although traces of longitudinal nervous chords may be met with in *Echinorhynchus* and in the *Acalephæ*. Another distinction of great moment is the absence, in the *Acrita*, of a distinct abdominal cavity separating the digestive cavity from the *parietes* of the body; the digestive cavity in those animals, whatever may be its form, being essentially a simple excavation of the *parenchyma*. The vascular system, where traces of it are met with in the *Acrita*, corresponds with the digestive system in being equally devoid of proper *parietes*, and consisting of canals excavated in the parenchymatous substance of the body, in which a cyclosis of the nutrient fluids, analogous to that of plants, is observed, but no true circulation.

In the *Acrite* subkingdom, with the exception of the generative and digestive organs, all the other systems are more or less blended together, and the corporeal *parenchyma* seems to possess many functions in common. Where a distinct organ is eliminated, it is often repeated almost indefinitely in the same individual. Thus, in the *Polypi* the nutritious canals are supplied by a thousand mouths; in the *Polygàstrica* there is an analogous multiplication of the digestive cavity itself; the generative system becomes the subject of this repetition in the *Tæniæ,* each joint being the seat of a separate ovary; and the *Sponges,* which exhibit in their calcareous and siliceous *spicula* the first rudiment of an internal skeleton, repeat again and again, without modification, in the same individual the same *spiculum.* The *Acrita* offer, as it were, the germs of the higher animal forms, and sketch forth the ideas of the typical condition of the principal subdivisions of the animal kingdom.

As classes of *Acrita* Mr. Owen proposes to regard the *Polygastrica,* the *Spongiæ,* the *Polypi,* the *Acalephæ,* and the *Vers Intestinaux Parenchymateux* of Cuvier, for which latter he proposes the name of *Sterelmintha.*

Among the *Radiata,* for which he uses the name *Nematoneura,* he includes the *Echinodermata* and the *Rotifera,* together with the *Vers Cavitaires* of Cuvier; which latter he subdivides into the *Epizoa* and the *Cœlelmintha,* a term proposed by him to comprise all the *Nematoidea,* together with the genera *Linguatula* and *Sipunculus.*

He passes in rapid review the several systems of the *Cœlelmintha,* and remarks on the generative functions, that the same variations which are met with in the *Sterelmintha* occur in this series also. We have the simple female apparatus without male organs, or the cryptandrous type, in *Sipunculus* ; the superadded male glands, but without reciprocal fecundation, in *Linguatula*; and the separate sexes in the *Nematoidea.*

In conclusion, Mr. Owen gives the following list, distributed according to his views of the

Entozoa Hominis.

Subregnum Acrita.

Classis (Infusoria, Cuv.).

1.	*Cercaria Seminis* cui locus	Semen virile.
2.	*Trichina spiralis*	Musculi voluntarii.

Classis Sterelmintha.

3.	*Echinocercus Hominis*	Hepar.
4.	*Cysticercus Cellulosæ*	Musculi et cerebrum.
5.	*visceralis*	Viscera generatim.
6.	*Tænia Solium*	Intestina tenuia.
7.	*Bothriocephalus latus*	Intestina tenuia.
8.	*Polystoma Venarum*	Venæ.
9.	*pinguicola*	Ovaria.
10.	*Distoma hepaticum*	Vesica fellea.

Subregnum NEMATONEURA.

Classis CŒLELMINTHA.

11.	*Ascaris vermicularis*	Intestinum rectum.
12.	*Lumbricoides*	Intestina tenuia.
13.	*Strongylus Gigas*	Ren.
14.	*Spiroptera Hominis*	Vesica urinaria.
15.	*Trichocephalus dispar*	Cæcum et intestina crassa.
16.	*Filaria branchialis*	Glandulæ branchiales.
17.	*Medinensis*	Substantia cellulosa.
18.	*Oculi*	Oculus.

June 9, 1835.

William Yarrell, Esq., in the Chair.

At the request of the Chairman, Mr. Thompson of Belfast exhibited numerous specimens of *Birds* and *Fishes*, some of which were new to the British, and many to the Irish, Fauna. With reference to these specimens, and to others not in his own possession, he read the following notes.

" Of the following species of *Birds, Fishes*, &c., the first four are additions to the British Fauna: the remainder are species hitherto unpublished in the Fauna of Ireland.

Canada Owl, Surnia funerea, Dum. An *Owl* of this species, preserved in the collection of Dr. Burkitt of Waterford, was taken on board a collier, a few miles off the coast of Cornwall, in March, 1830, being at the time in so exhausted a state as to allow itself to be captured by the hand. On the arrival of the vessel at Waterford, whither she was bound, the bird was given to a friend of Dr. Burkitt, with whom it lived for a few weeks, and then came into his possession. The very circumstantial account of the capture of this bird given by Captain Stacey of the collier, leaves no doubt of its accuracy.

Lough Neagh Coregonus. In September last a comparison of the Lough Neagh *Coregonus* with the *Vendace* of Loch Meben (whence I procured specimens, through the kindness of Sir William Jardine, Bart.,) proved to me that these species are distinct. The disagreement of the former with the *Gwiniad*, or *Coregonus* of Wales, as described by Pennant, was at the same time very obvious; and from the examination of an individual of the latter species (lately favoured me by Mr. Yarrell) and specimens of the Lough Neagh Fish, I am fully satisfied that they are specifically different.

From the *Gwiniad*, the *Pollan* or Lough Neagh *Coregonus* differs in the snout not being produced; in the scales of the lateral line; in having fewer rays in the anal fin, and in its position being rather more distant from the tail; in the dorsal, anal, and caudal fins being of less dimensions; and in the third ray of the pectoral fin being longest, the first being of the greatest length in the *Gwiniad.*

From the *Pollan*, the *Vendace* or Loch Meben *Coregonus* differs so essentially in its lower jaw being the longer, as well as in its being turned upwards, as to render it unnecessary to draw further comparison.

The *Pollan* is very uniform in size, its ordinary length being about 10 inches: none that I have ever seen exceeded 12. The relative length of the head to that of the body is as 1 to about 3½: the depth of the body equal to the length of the head: the jaws equal, both occasionally furnished with a few delicate teeth; the tongue with many teeth: the lateral line sloping downwards for a short way from the *operculum*, and thence passing straight to the tail: nine rows of scales from the dorsal fin to the lateral line, and the same number thence to the ventral fin; the rôw of scales on the back and that of the lateral line not reckoned: the third ray of the pectoral fin the longest.

D. 2+12. P. 16. V. 1+11. A. 2+11. C. 19. B. 9.—*Vertebræ* 59.

Colour to the lateral line dark blue, thence to the belly silvery; dorsal, anal, and caudal fins towards the extremity tinged with black; pectoral and ventral fins of crystalline transparency, excepting at their extremities, which are faintly dotted with black. *Irides* silvery, pupil black.

As not one of the *Coregoni*, of which I can find descriptions, agrees with the Lough Neagh species, I am induced to consider it as new, and venture to propose for it the name of *Coregonus Pollan*, as by this trivial appellation it is invariably known in its native district.

Cephaloptera, Dum. A fish of this singular genus, taken about five years ago on the southern coast of Ireland, and thence sent to the Royal Society of Dublin, is at present preserved in their Museum. In breadth it is about 45 inches. The specimen being imperfect, and the characters of some of the species being ill defined, I hesitate applying to it a specific name. It somewhat resembles the *Ceph. Giorna*, as figured by Risso.

Physalia pelagica, Eschsh. On the 13th of March, 1834, a specimen of this *Physalia* was found by Miss Ball of Youghal, on the coast of the county of Waterford, near Ardmore. When taken up it exhibited great brilliancy of colour. To Mr. Gray I am indebted for the opportunity of consulting the work of Eschsholtz (Syst. der Acaleph.), according to which the *Phys. pelagica* of Lamarck differs from this, being identical with his *Phys. Caravella*. The *Phys. tuberculosa* of Lamarck is considered by Eschsholtz synonymous with his *Phys. pelagica*.

Orange-legged Hobby, *Falco rufipes*, Bechst. An immature specimen of this bird, shot in the county of Wicklow in the summer of 1832, forms part of the collection of T. W. Warren, Esq., of Dublin.

Snowy Owl, *Noctua nyctea*, Sav. About the 26th of March, 1835, one of these birds was shot near Portglenone, county Antrim, and came into possession of Dr. Adams of that place, who presented it to the Natural History Society of Belfast: the individual now exhibited is said to have been seen along with it. On the 21st of the same month a bird of this species was seen on an open or heath-covered moor about twenty miles distant from Portglenone, by two of my friends, within a few yards of one of whom it sprung, just as he had fired at a *Snipe*.

In Dublin I subsequently saw a specimen of this *Owl* which had been shot in the county of Mayo, also in the month of March; and I am credibly informed that a few others were obtained about the same time in different parts of Ireland.

Great spotted Woodpecker, *Picus major*, Linn. A specimen of *Pic. major*, preserved in the Museum of the Royal Dublin Society, was shot in the vicinity of that city a few years since. In the manuscript Notes of the late Mr. Templeton it is stated that an individual of the same species was sent to him, in August, 1802, from the county of Londonderry.

Little Bustard, *Otis Tetrax*, Linn. Two birds of this rare species were seen in the county of Wicklow, on the 23rd of August, 1833, and one of them was shot by Mr. Reside, for whom it was set up by Mr. W. S. Wall, Bird Preserver, Dublin.

Velvet Scoter, *Oidemia fusca*, Flem. In December, 1833, a specimen of this *Duck* was killed at Clontarf, near Dublin. Its occurrence on the Irish coast in one or two other instances has been communicated to me.

Red-necked Grebe, *Podiceps rubricollis*, Lath. Dr. J. D. Marshall of Belfast informs me that a specimen of this bird, which he possesses, was procured in the neighbourhood of that town in the autumn of 1831.

Great Auk, *Alca impennis*, Linn. One of these birds, taken in 1834 off the coast of the county of Waterford, is preserved in the collection of Dr. Burkitt of Waterford. It lived in confinement for some months.

In Sampson's 'Londonderry' it is erroneously stated that *Alca impennis* frequents the rocks of that county as well as those of Donegal: the *Razor-bill*, *Alca Torda*, Linn., which is common to both counties, being omitted in Mr. Sampson's Catalogue, is, I presume, the bird alluded to under the name of *Alca impennis*.

Pomarhine Skua, *Lestris Pomarhinus*, Temm. Of this *Skua*, three specimens were procured in different parts of Ireland, within a short period, about the commencement of the winter of 1834–5. The first, purchased alive at Youghal, county Cork, on the 12th of October, was caught upon a hook, at sea, and lived for a few weeks, part of which time it was in the Garden of the Zoological Society of Dublin. The second specimen was shot in Belfast Bay, on the 18th of October, and is in the collection of Dr. J. D. Marshall. Both these individuals were immature. The third, an adult bird, was shot from among a flock of *Gulls*, in the Phœnix Park, Dublin, on the 5th of November, and, with the first mentioned, is in the possession of Robert Ball, Esq., of Dublin.

Sapphirine Gurnard, *Trigla Hirundo*, Linn., is commonly taken on the north-east coast of Ireland: it not unusually attains 2 feet in length. By the Howth (county Dublin) fishing-boats I have seen this species brought ashore in considerable quantity.

Lineated Gurnard, *Trigla lineata*, Linn. On the 28th of February, 1835, Dr. J. D. Marshall, being attracted by the peculiar colour of a *Gurnard* in Belfast Market, kindly communicated the circumstance to me, and on inspection of the fish, I found it to be the *Trigla lineata*, and learned that it had been taken in Strangford Lough. Its length is 16¼ inches. On the 3rd of March I procured another specimen, but of smaller dimensions, from the same locality.

Long-spined Cottus, Cottus Bubalis, Euphr. This appears to be more common on the Irish coast than *Cott. Scorpius*, Linn. I have taken it off Down, and in Galway Bay, and have seen a specimen of Mr. Ball's from the harbour of Cork. Of eleven specimens of *Cott. Bubalis* and *Cott. Scorpius* examined by me, which were obtained in the north-east, the west, and the south of Ireland, and preserved without any regard to species, eight were of the former, and three of the latter.

One specimen of *Cott. Bubalis*, taken in Belfast Bay, and preserved in the Museum of that town, is 7 inches in length.

Pogge, Aspidophorus Europæus, Cuv. & Val., (*Cottus Cataphractus*, Linn.). Specimens of this fish, from the coast of Down, have been sent to me by Captain Fayrer, R.N.; and in Mr. Ball's collection is one from the coast of Cork.

Bonito, Scomber Pelamys, Linn. Of this species, rarely captured in the British seas, one taken on the coast of Wexford, some years since, was sent in a fresh state to the Royal Dublin Society, and is preserved in their Museum: its length is 29 inches.

Atherine, Atherina Presbyter, Cuv. This is taken plentifully on the coast of Down, especially in Strangford Lough. Of about forty specimens from this locality, which I examined in January last, the average length was 6¼ inches; a few were 7, and one was 7½ inches long. Mr. Ball informs me that the *Atherine* is not unfrequently taken along with *Sprats* at Youghal, and that on the 14th of September last he saw a shoal of them at Portmarnock, county Dublin, where a stream had formed a pool in the sand below high-water mark.

Smooth Blenny, Blennius Pholis, Linn. This is more commonly to be met with than any other species of fish in the rocky pools on the north-east coast of Ireland: specimens have been sent to me from the south by Mr. Ball; and in Galway Bay, on the western coast, I captured a few individuals in June, 1834.

Wolf Fish, Anarrhichas Lupus, Linn., is occasionally taken on the eastern coast of Ireland. The Museum of the Royal Dublin Society contains a native specimen.

Black Goby, Gobius niger, Linn.? Of the *black Goby*, as generally recognised by British authors, a specimen taken at Youghal has been submitted to me by Mr. Ball. In a paper read before the Linnean Society last year, I showed that the *Gob. niger* of Pennant, and the fish to which Donovan applies the same name, are two distinct species. To the latter Mr. Yarrell has since given the name of *Gob. bipunctatus.*

Sordid Dragonet, Callionymus Dracunculus, Linn. A specimen of this fish, taken at Youghal in August last by Mr. Ball, is in his collection.

Ballan Wrasse, Labrus maculatus, Bloch, occurs commonly, and of a large size, on the coasts of Down and Antrim, often attaining upwards of 20 inches in length.

Striped Wrasse, Labrus variegatus, Gmel., is occasionally taken on the Down and Antrim shores: a specimen from the south has been sent to me by Mr. Ball: and in the Museum of the Royal Dublin Society one is preserved, which was purchased in Dublin Market.

Goldfinny, Crenilabrus Cornubiensis, Yarr. I have seen but one Irish specimen of this fish, which was taken at Youghal by Mr. Ball. The proportion of spiny to soft rays in its dorsal fin is but 13+10; otherwise it agrees with this fish as commonly described.

Salmo ferox, Jard. & Selby. A large species of *Salmo*, found in Lough Neagh, and known there by the name of *Buddagh*, has long attracted attention.

In Harris's 'History of the County of Down', published in 1744, it is remarked (p. 236), 'This *Buddagh* seems to be the same fish found in the lake of Geneva, and called by Gesner and Aldrovandus *Trutta lacustris.*' In Sampson's 'Londonderry', and Dubourdieu's 'Down', it appears as *Salmo lacustris.* However, upon seeing a specimen of the Loch Awe trout, named *Salmo ferox* by Sir William Jardine and Mr. Selby, at the last Meeting of the British Association, I recognised it as identical with the *Buddagh* of Lough Neagh.

Small-headed Dab, Platessa microcephala, Flem., is occasionally brought from the Down coast to Belfast Market, where it is known by the name of *Lemon Sole.*

Whiff, Pleuronectes megastoma, Don., occurs, though very rarely, on the north-east coast of Ireland.

Pleuronectes punctatus, Penn. On the 25th of March, 1835, I procured a specimen of this fish, 6¼ inches in length, from Ardglass, county Down, where it must be very rare, being quite unknown to the fishermen.

Ocellated Sucker, Lepadogaster Cornubiensis, Flem. The only Irish specimen of this fish which I have seen was taken by Wm. H. Harvey, Esq., of Limerick, on the coast of Clare.

The number of fin-rays in this specimen differs very much from that stated by Pennant and Donovan to exist in the *ocellated Sucker* :

Pennant gives	D. 11.	A. 9.	V. 4 ;			
Donovan	D. 11.	A. 10.		P. 17.	C. 6 ;	
Mr. Harvey's specimen has	D. 20.	A. 11.	V. 4.	P. 19.	C. 14.	B. 6 ;

and exhibits, in addition to the two filaments which appear before each eye, a third fleshy appendage placed nearer to the eye, and unconnected with the others.

Notwithstanding these discrepancies, the general accordance of Mr. Harvey's fish with the figures of the *ocellated Sucker* given by the authors above quoted, and its possessing the character whence the trivial name has been derived, make me unwilling, without further investigation, to consider the species distinct.

A notice of two specimens of *Lepadogaster bimaculatus*, Flem., having occurred to me on the coast of Down, was, early in the present session, communicated to the Linnean Society, it being at the same time remarked that the spots from which the species had obtained its scientific as well as trivial name were in both instances wanting. Since that time I, on one occasion, took upwards of a dozen specimens of this fish, by deep dredging in Belfast Bay: one or two of these were also immaculate.

Leptocephalus Morrisii, Penn. By the kindness of scientific friends I am enabled to mention the occurrence of six specimens of *Lept. Morrisii* on the coast of Ireland. Mr. Ball has thus written me respecting it: 'The first I saw was at Cove, in 1809. . . . . . . I was at the capture of a second at Clonakilty, in 1811. I caught one myself at Youghal, in 1819, and procured another which was taken there. The fifth, the specimen which I have preserved, was taken in a shrimp-net, at Youghal also, in 1829; the four others having been found under stones, near low-water mark.' Dr. J. L. Drummond informs me that when in Bangor, county Down, in June, 1831, a specimen of *Lept. Morrisii*, about 4 inches in length, was brought to him: it had been just taken from a pool left in the sand by the ebbing tide, and was almost perfectly transparent.

Syngnathus Ophidion, Linn. Of this fish I have seen a few specimens, which were obtained by Mr. G. C. Hyndman at the entrance of Strangford Lough, in March, 1832.

Ammocœtes branchialis, Flem. I have specimens of this fish from the county of Kildare.

The oceanic shell *Ianthina exigua*, Sow., which was, I believe, for the first time noticed in 1834, as occurring on the English coast (Turton, in Mag. of Nat. Hist., vol. vii. p. 352), and never before on that of Ireland, was obtained in considerable abundance in September, 1834, at Kilkee, on the coast of Clare, by Mrs. James Fisher, of Limerick."—W. T.

Mr. Thompson also read the following notes respecting two *Birds*, which he regarded as interesting on account of the rarity of their occurrence.

Scolopax Sabini, Vig. The specimen exhibited of this very rare bird is one of the four individuals noticed by Mr. Yarrell in a paper on British *Snipes*, which appeared in the 'Magazine of Natural History' for 1830 (vol. iii. p. 29). It is there merely mentioned as "a third specimen, lately mounted by a London bird preserver", and no particulars respecting it have yet appeared. It was shot by Captain Bonham of the 10th Hussars (who most kindly ordered it to be sent hither from Brighton for my inspection), at the end of November or beginning of December, 1827, near Garvagh, in the county of Londonderry, being the second individual killed in Ireland. In a letter to a mutual friend, Captain Bonham remarks of this bird, that it sprung from the side of a high heathery hill, from which *common Snipes, Scol. Gallinago*, Linn., were at the same time raised, but that it did not call as they do. His want of success in obtaining it before the third shot afforded Captain Bonham an opportunity of remarking its disregard for his presence, which was manifested by its alighting quite near again, after being fired at, in the manner of the *Jack Snipe, Scol. Gallinula*, Linn.

Larus Sabini, Sab. A third specimen of this bird occurred last autumn in Ireland. It was shot on or about the 15th of September, 1834, on the shore of Belfast Bay, near Claremont, the residence of Mrs. Clewlon, in whose possession it now is. It is a young bird of the year, and in plumage similar to the other two individuals of this species, which I had the satisfaction of announcing to the Linnean Society last year as having been obtained in Ireland.—W. T.

Mr. Thompson subsequently read the following notice respecting the

Larus Argentatoides, Swains. & Rich. "On submitting six mature specimens of the *Herring Gull* of the north of Ireland to a critical examination, similar to that pursued in the second volume of the 'Fauna Boreali-Americana' by Mr. Swainson and Dr. Richardson, I ascertained their identity with the *Lar. Argentatoides* of that work (vol. ii. p. 417). Between the largest and the smallest of these specimens there was a difference in total length of from 22½ to 24½ inches, and in their *tarsi* of from 27 to 32 lines. The second quill in two individuals, exhibited, in addition to the white tip, 'a round white spot on its inner web'; in this respect agreeing with the *Lar. Argentatoides* as described in the work referred to, and previously by C. L. Bonaparte in his 'Synopsis of the Birds of the United States' (Ann. of Lyc. of New York, vol. ii. p. 360); the second quill in three of these specimens wants this white spot, in which particular they agree with the *Lar. argentatus*, as contradistinguished by Bonaparte from the *Lar. Argentatoides*: the same quill in the sixth specimen is in an intermediate state, a round white spot, not more than ¼ of an inch across, appearing on it in the one wing; the second quill of the other wing in the same individual exhibiting a white spot fully half an inch in diameter: thus proving that this marking is so inconstant that it should not be relied on as a character."—W. T.

Mr. Thompson finally exhibited, from the collection of Mr. Ball, the first specimen of the *American Cuckoo, Coccyzus Americanus*, Bon., recorded in the British Catalogue; and showed its identity of species by comparing it with an American specimen exhibited for that purpose.

He also exhibited one of the two specimens of the *Noddy, Sterna stolida*, Linn., noticed by him before the Linnean Society last year as having been obtained near the coast of Ireland.

The exhibition was resumed of the previously undescribed species of *Shells* contained in the collection of Mr. Cuming. Those brought on the present evening under the notice of the Society were accompanied by characters by Mr. G. B. Sowerby, and comprised the following species of the

Genus Pinna.

Pinna rugosa. *Pinna testâ magnâ, rudi, trigonâ, longitudinaliter obtusè radiatim costatâ, posticè latâ, rotundatâ; costis posticè squamiferis, squamis magnis, elongatis, irregularibus, subrecurvis, foliaceis, tubulosis; margine dorsali recto, antico ventrali subcoarctato: long.* 9·, *alt.* (*ad partem posticam*) 6· *poll.*

Hab. in Sinu Panamensi. (Isle of Rey.)

One of the specimens obtained by Mr. Cuming measures eighteen inches in length. They were procured from sand banks.—G. B. S.

Pinna maura. *Pinna testâ oblongâ, tumidâ, fusco-nigricante, longitudinaliter radiatim costatâ; costis parvis, obtusis, subobliteratis, posticè squamiferis, squamis fornicatis, subreflexis, ventralibus minoribus; margine dorsali rectiusculo, postico subrotundato, ventrali postico subventricoso, ventrali antico declivi: long.* 10·5, *alt.* (*ad partem posticam*) 5·5 *poll.*

Hab. apud Panamam.

Obtained from muddy banks.—G. B. S.

Pinna tuberculosa. *Pinna testâ subtrigonâ, altâ, fusco-nigricante squamulis pallidioribus, obsoletè subradiatâ, radiis squamuliferis, squamulis foliaceis, brevibus, posticè incurvis, fornicatis, tubercula simulantibus; margine dorsali recto, postico subdeclivi, ventrali subrotundato; angulis posticis rotundatis; vertice subadunco: long.* 8·, *alt.* (*ad partem posticam*) 6· *poll.*

Hab. apud Panamam.

Obtained, like the last species, from muddy banks.—G. B. S.

Pinna alta. *Pinna testâ trigonâ, flabelliformi, radiatim longitudinaliter costellatâ; costellis angustis, muricatis* (*posticè præcipuè*), *squamulis paucis, longioribus, ventralibus subobsoletis; margine dorsali recto, postico alto rotundato, ventrali ventricoso; vertice subadunco: long.* 5·5, *alt.* (*ad partem posticam*) 4·5 *poll.*

Hab. in Sinu Honduras.

Found on sand banks.—G. B. S.

Pinna lanceolata. *Pinna testâ lanceolatâ, supernè radiatim lon-*

gitudinaliter costellatâ, infrà ferè muticâ; costellis distantibus, muricatis, squamuliferis, squamulis distantibus, subrecurvis, longioribus; margine dorsali recto, postico rectiusculo, subdeclivi, ventrali subventricoso: long. 7·75, alt. (ad partem posticam) 3·5 poll.

Hab. apud Puerto Portrero.

Dredged from sandy mud at a depth of thirteen fathoms.—G. B. S.

PINNA SQUAMIFERA. *Pinna testâ sublanceolatâ, corneâ, costellis paucis squamiferis longitudinaliter radiatâ, squamis subdistantibus, majoribus, latiusculis, subreflexis, rotundatis, hyalinis; margine dorsali recto, postico ventralique rotundatis, continuis; areâ ventrali rugosâ: long. 6·, alt. (ad partem posticam) 3· poll.*

Hab. ad Caput Bonæ Spei.—G. B. S.

PINNA AFRA. *Pinna testâ lanceolatâ, corneâ, subradiatim costellatâ et fusco pictâ; costellis subobsoletis, posticè squamuliferis, squamulis latiusculis, laxis, sparsis; margine dorsali ventralique æqualibus, postico brevi, subrotundato: long. 6·, alt. (ad partem posticam) 2·5 poll.*

Hab. ad Caput Bonæ Spei.—Communicavit Dom. Ed. Verreaux. —G. B. S.

Mr. Gray exhibited specimens of two *Corals*, which he regarded as the types of two genera not previously distinguished. He characterized them as follows:

ERRINA.

Corallium solidum, calcareum, durum.

Cellulæ tubulares, prominentes, supernè longitudinaliter fissæ, ad apices ramorum undique sparsæ: fossâ profundâ minimâ sæpe sub basin cellularum sitâ.

Polypus adhuc incognitus.

The type of this genus is the *Millepora aspera* of Esper (Supp., i. t. 18. Lam., ii. p. 201.).

It is probable that the *Mill. tubulifera*, Lam., and the *Mill. pinnata*, Ej., are also referrible to it.

ANTHOPORA.

Corallium durum, lapidosum; superficie granulosâ, scabrâ, vix porosâ.

Cellulæ sparsæ, subcylindricæ, suprà concavæ 6-radiatæ, infrà 6-lamellosæ; lamellis in centro stylifero coadunatis; stylo vix prominente; sulcis aliquibus minoribus inter radios.

The outer coat of the coral is hard and stony, and the centre of its branches is cellular, and formed of six-rayed branching stars. The stars are elongate, tubular, and chambered, like those of *Pocillopora.*

This genus agrees in the number of the plates of the cells, the central style, and the solidity of the coral, with M. de Blainville's

Sideropora, but differs from it in the rays of the stars not being produced. By the latter character, and by the number of its rays, it differs from the genus *Stylaster*, Gray. From *Stylopora*, Schweigg., it differs by the central style of the cells not being exserted, and by the coral being solid instead of porous.

The form of the stars is best seen at the tips of the branches, their mouths becoming in the older parts so contracted as to obscure the central style. When the coral is worn, the style is distinctly visible.

1. Anthopora cucullata. *Anth. corallio solido, ramoso; ramis compressis, subpalmatis, ad apices dilatatis rotundatis compressis; cellularum margine superiore producto, cucullato.* (*Animal viridescens*, Ehr.)

Millepora alcicornis, *Forsk.*
Millepora digitata, *Pall.*
Porites scabra, *Lam.*
Pocillopora Andreogyni, *Aud.*
Porites digitata, *Ehr.*
Hab.

The details of this species given by M. Savigny in the fourth Plate of the *Polypes*, forming part of the great work on Egypt, leave little to be desired for its elucidation.

2. Anthopora elegans. *Anth. corallio solido, ramoso; ramis subcylindricis rarissimè subcompressis, attenuatis, ad apices rotundatis; cellularum margine circulari.*

Porites subseriata, Ehr.?

Mr. Owen read a "Note descriptive of a new species of *Tapeworm*" discovered in the small intestines of the *Flamingo, Phœnicopterus ruber*, Linn., and to which he had given the name of *Tænia lamelligera* when he first brought it, in 1832, under the notice of the Committee of Science and Correspondence of the Society (Proceedings, Part II. p. 143). His principal object in again adverting to the subject was to lay before the Meeting a series of drawings which he had prepared of this remarkable *Intestinal Worm*, which bears generally a superficial resemblance to the *Annelidous Nereis lamelligera*, Pall.

Mr. Bell read a paper entitled "Observations on the Genus *Cancer* of Dr. Leach (*Platycarcinos*, Latr.), with Descriptions of three New Species."

He commences by remarking on the subdivisions which the increase of our knowledge has rendered necessary in the genus *Cancer* as established by Linnæus, and by giving his reasons for preferring the appropriation of that name, proposed by Dr. Leach, to the smaller group comprehending the *large edible Crab* of our coast, rather than the assigning to it the appellation of *Platycarcinos*, suggested by Latreille; a name which, in fact, is objectionable, independently of the peculiar fitness of the other, on account of the shells of the animals of this group not being flat, as would seem to be implied by it. He then characterizes and describes the genus as now restricted: and subsequently characterizes the several species referrible to it, including the one generally known in the markets; a second, which was originally described by Say; and three others, now for the first time noticed, which were obtained by Mr. Cuming on the coast of Chili, and which form part of the Society's Collection, having been presented to it, together with the whole of his *Crustacea*, by that gentleman: the new species are also described in detail. Mr. Bell calls particular attention to the fact, that nearly every one of the structural characters indicated by Dr. Leach in the *common Crab* as specific, are, in reality, generic marks; all the known species agreeing, without exception, in the margin on each side having nine, or more properly ten, divisions (the last being obsolete); in the front being trifid; and in the carapace being granulated.

The characters of the species are as follows:

Genus CANCER, Leach.

1. CANCER LONGIPES. *Canc. testâ leviter granulatâ, sparsim punctatâ; margine antico-laterali decem-lobato, lobis contiguis, ad marginem minutè denticulatis; manibus lævibus, extùs lineis quinque impresso-punctatis, pedibus longioribus; abdominis articulo ultimo æquilateraliter triangulari.*

Long. 3½; lat. 6 unc.

Hab. apud Valparaiso, *Dom. Cuming.*

Suprà pallidè ruber flavo obsoletè punctatus; subtùs flavescens. Chelarum apices nigrescentes.

2. CANCER EDWARDSII. *Canc. testâ granulatâ; margine antico-laterali decem-lobato, lobis latis, contiguis, profundè dentatis; manibus suprà obsoletè tuberculoso-carinatis; maris abdominis articulo ultimo anticè producto.*

Long. 5¾; lat. 7½ unc.

Hab. apud Valparaiso, *Dom. Cuming.*

Suprà rufescenti-brunneus; subtùs flavus rufescente varius.

3. CANCER DENTATUS. *Canc. testâ granuloso-scabrâ, hispidâ; margine antico-laterali decem-dentato, dentibus lanceolatis, denticulatis; manibus tuberculoso-bicarinatis, extùs lineis quinque longitudinalibus granulatis; pedibus pilosissimis.*

Long. 4; lat. 5½ unc.

Hab. apud Valparaiso, *DD. Cuming et Miller.*

Suprà saturatè rufescenti-brunneus flavo (præsertim in junioribus) varius; subtùs rufus flavo varius.

4. CANCER IRRORATUS, Say. *Canc. testâ leviter granulatâ; margine antico-laterali decem-lobato, lobis contiguis, quadratis, ad marginem denticulatis; manibus compressis, dentato-bicristatis.*

Hab. ad oras Floridarum, *Say,* et Americæ Australis, *DD. Cuming et Miller.*

5. CANCER PAGURUS, Auct. *Canc. testâ granulatâ; margine antico-laterali decem-lobato, lobis quadratis, contiguis, integris; manibus lævibus.*

Hab. ad oras Magnæ Britanniæ et Europæ Occidentalis.

In illustration of Mr. Bell's paper the several *Crabs* described in it were exhibited, and it was stated that drawings of them would be prepared.

Mr. Bell subsequently read a paper "On *Microrhynchus*, a new Genus of *Triangular Crabs.*" Its characters are thus given:

MICRORHYNCHUS.

Testa subtriangularis, posticè rotundata, anticè rostro brevissimo terminata.

Oculi pedunculo elongato multo crassiores, retractiles.

Orbita suprà unifissa, extrorsùm unidentata.

Antennæ exteriores ad latera rostri insertæ, articulo basilari rostro vix breviore.

Antennæ interiores in fossulâ integrâ anticè apertâ et ad apicem rostri ferè attinente locatæ.

Pedipalpi externi caulis interni articulo secundo cordiformi, anticè profundè emarginato.

Pedes antici maris corpore vix longiores, reliquis multo crassiores, digitis arcuatis; fœminæ minimi: *pedes octo posteriores* subconsimiles, corpore fere duplo longiores, unguibus leviter curvis.

Abdomen maris 7- fœminæ 5-articulatum (hujus articulis tribus ultimis conjunctis).

Genus *Camposciæ* affine, et verosimiliter *Camposciam* inter et *Inachum* collocandum.

1. MICRORHYNCHUS GIBBOSUS. *Micr. testâ gibbosâ; rostro bifido.*

Long. testæ 6; lat. 5 lin.

Hab. ad Insulas Gallapagos dictas.

Flavescenti-albidus.

2. MICRORHYNCHUS DEPRESSUS. *Micr. testâ depressâ, granulatâ; rostro minuto, triangulari, integro.*

Long. testæ 6; lat. itidem 6 lin.

Hab. cum præcedente.

Albidus carneo obsoletissimè tinctus.

The reading of the paper was illustrated by the exhibition of the specimens on which it is founded, and which form part of the same collection with the *Crabs* before referred to. Mr. Bell stated that he regarded it as part of a Descriptive Catalogue of the *Crustacea* of the western coast of South America, on which he is now engaged, and the materials for which will be chiefly furnished by the collection presented to the Society by Mr. Cuming.

June 23, 1835.

Dr. Horsfield in the Chair.

A letter was read, addressed to the Secretary by Keith E. Abbott, Esq., Corr. Memb. Z.S., dated Trebizond, February 14, 1835. It referred principally to a collection of skins of *Mammalia* and *Birds*, and of preserved *Reptiles*, *Fishes*, and *Insects*, formed chiefly in his neighbourhood by the writer, and presented by him to the Society. It also referred to some living animals presented by him at the same time. A portion of the collection was obtained by Mr. Keith Abbott from the vicinity of Erzeroun, to which city he states his intention of proceeding shortly with the view of taking up his residence there for some time.

The collection was exhibited.

Among the *Mammalia* Mr. Bennett pointed out, as apparently hitherto undescribed, a "field Rat", for which he proposed the name of

Mus latipes. *Mus caudâ corpore multo longiore ; suprà plumbeo-niger, subtùs pallidior ; pedibus cinereis.*

Long. corporis cum capite 5¼ unc.; *caudæ*, 8; *auriculæ*, 8 lin.; *pedis postici* cum unguibus, 1½ unc.

He remarked that this new species appears to be most closely allied to the *Mus Alexandrinus*, Geoff., with which it nearly agrees in the comparatively great length of its tail. Its colouring is, however, much darker than that of the species referred to. The hairs over the whole of the body are very long and silky: the short rigid hairs on the tail, as is stated to be the case also in *Mus Alexandrinus*, are comparatively numerous.

The other *Mammalia* comprised a *Shrew*, *Sorex*; a *Hedgehog*, *Erinaceus*; a *Marten*, *Mustela Foina*, Linn.; and a *Badger*, *Meles Taxus*, Storr. The skin of the latter was remarked on as particularly interesting, not only on account of its eastern locality, but also for the softness and length of its comparatively dense fur; for its greater paleness, depending on the extent of the whitish or fulvous tips of the separate hairs; for the copiousness of the under soft woolly coat of fur with which the animal is covered at the base of the longer setaceous hairs; and for the diminished breadth, as compared with ordinary European specimens, of the black marking of the under surface.

A specimen of a *Zorille*, *Mustela Zorilla*, Desm., contained in the collection, is apparently scarcely different, notwithstanding the great difference of locality, from an individual obtained, by the kindness of Sir Thomas Reade, from Northern Africa. Respecting this animal Mr. Keith Abbott states, "It is called, in Turkish, *Gheurjen*.

I had intended sending it to you alive, but it died a few days ago. It was sent to me from the neighbourhood of Erzeroun: I am not aware of there being any in this immediate neighbourhood. It was of a particularly savage nature, and although I had kept it for several months, I was never able to tame it in the least: it would bite whenever it could."

"I send you likewise," he adds, "a little *Marmot* alive in a small cage. It came from Erzeroun, in the neighbourhood of which, I understand, there are vast numbers." It is apparently very nearly allied to *Citillus concolor, Arctomys concolor*, Temm., but may probably, Mr. Bennett remarked, be specifically distinct. It may be characterized as follows:

CITILLUS XANTHOPRYMNA. *Cit. brunneo-grisescens flavo irroratus, subtùs albescens; prymnâ caudâque rufescenti-flavidis, hâc rotundatâ, brevi, pilosissimâ; pedibus lineâque oculum cingente albis; auriculis inconspicuis.*

Long. corporis circiter 7 unc.; *caudæ*, 2.

The *Birds* of the collection were brought under the notice of the Meeting, at the request of the Chairman, by Mr. Gould. He observed on each of them as regarded its geographical distribution, considering the exhibition as a continuation of those of June 24 and November 25, 1834. (Proceedings, Part II. pp. 50 and 133.) The following species, exhibited on the present occasion, were not comprised in either of the former collections: and the total number is thereby raised to sixty-seven species obtained in the neighbourhood of Trebizond, a locality which is particularly interesting on account of its intermediate position between Western Europe and India.

Alcedo Ispida, Linn. Inhabiting Europe generally, but not seen by Mr. Gould in collections from India or Africa.

Turdus musicus, Linn. Not previously observed out of Europe.

Curruca atricapilla, Bechst. Inhabiting Europe generally, but not met with in Indian collections.

Curruca cinerea, Bechst. Similarly circumstanced with the last.

Sylvia Trochilus, Lath. Inhabiting Europe generally, and the western portions of India.

Regulus cristatus, Cuv. Mr. Gould had not previously seen this bird, except in European collections.

Motacilla melanocephala. This is considered by some ornithologists as a variety of the *Mot. flava* of continental writers. It is never found in the western or northern parts of Europe.

Anthus pratensis, Bechst. Common throughout the whole of Europe, and tolerably so in the western parts of India.

Phœnicura Suecica, Jard. & Selb. Inhabits Europe and India. Only two specimens of it have been taken in England.

Querquedula Crecca, Steph. Dispersed over the whole of Europe, India, and the northern regions of Africa; but not found in America.

Colymbus Arcticus, Linn. Inhabits the whole northern hemisphere. The Trebizond specimen is young.

Larus canus, Linn. Inhabiting Europe generally.

Larus fuscus, Linn. Inhabiting the European and American seas.

Larus ridibundus, Linn. Inhabiting the whole of Europe, India, and North America.

The *Fishes* forwarded by Mr. Keith Abbott are all from the salt water. They include twenty species. Respecting them he writes: "Had I received your letter sooner I might have collected a great many more fishes, but the season was gone by. There is no fish-market in this place, and the people are by no means expert in the art of catching them. The only kind of fish caught in any quantity just now is the *Anchovy*, of which there are two specimens in the jar of spirits: these are taken in astonishing quantities. The *Herring*, *Mackarel*, and *Mullet* (*red* and *grey*), are very abundant in this sea; as likewise the *Turbot*, of which I send a specimen. *Salmon* and *Sturgeon* are likewise occasionally caught here."

In bringing these *Fishes* under the notice of the Society, Mr. Bennett remarked that there were among them several which required a more careful comparison with Mediterranean species than he had been, at present, enabled to give to them; but that the following appeared to him to be distinct from any which had hitherto been described.

TRIGLA PAUCIRADIATA. *Trigla pinnâ priore dorsali sex-radiatâ; sulco dorsali fortiter armato: pinnis pectoralibus magnis, internè cæruleis, fasciis undulatis apicem versus maculâque infra medium saturatioribus, hâc albo guttulatâ.*

D. 6, 16. A. 15.

Long. tot. 10½ unc.; *capitis*, 2½; capitis alt. 1⅓; cranii lat. 1.

Caput leniter declive: ossa suborbitalia anticè vix prominentia, dentibus tuberculisve parvis 4—5 munita.

DENTEX RIVULATUS. *Dent. ovali-oblongus; capite leniter proclivi; oculo majusculo: suprà aureus, maculis præsertim ad lineam lateralem nigrescentibus, vittis laterum argenteis flexuosis hinc et hinc cancellatis.*

D. 11+11. A. 3+9. P. 15.

Long. tot. 6½ unc.; alt. max. 1⅓.

A *Dent. macrophthalmo*, Cuv. et Val., differre videtur corpore magis elongato, capite vix tumido, oculo minore, pinnâ pectorali in medio magis elongato subrotundato, caudali magis bifurcâ; necnon coloribus picturâque, quâ *Scolopsidem cancellatum*, Benn., quodammodo simulat. Maxillæ inferioris, æquè ac superioris, dentes antici quatuor majores.

GOBIUS SORDIDUS. *Gob. pinnâ dorsali secundâ priore altiore; caudali pectoralique rotundatis: corpore vario; pinnis maculatis, anali ventralibusque nigro (illâ latè) marginatis.*

D. 6, 1+17. C. 13. A. 13. P. 17.

CRENILABRUS FRÆNATUS. *Cren. ovatus, guttatus punctatusque, fasciis quatuor nigrescentibus maxillam inferiorem cingentibus: pinnâ caudali rotundatâ.*

D. 14+10. A. 3+9.

Long. tot. 4¼ unc.; alt. corp. 1¼.

Totus, præter pinnis pectoralibus ventralibusque, varius; sed maculis insignibus nullis notatus. Dentes subæquales, commissuram versùs gradatim decrescentes.

ALOSA IMMACULATA. *Al. maxillis dentiferis, immaculatus; pinnis ventralibus dorsalis initio paullò posterioribus.*

D. 17. A. 18.

Long. tot. 10½ unc.; alt. max. 2½; long. capitis 2½; a rostro ad lineam initii pinnæ dorsalis, 4½.

RHOMBUS STELLOSUS. *Rhomb. subrotundus, utrinque tuberculoso-muricatus; oculis subdistantibus, intervallo vix convexiusculo; maxillâ superiore vix uncâ armatâ.*

Long. (pinnis exclusis) 7¼ unc.; lat. 5.

A latere sinistro squamis parvis adhærentibus vestitus; tuberculisque osseis, magnis, acutiusculis, ad basin scabroso-dilatatis, sparsis, vix numerosis armatus: a latere dextro tuberculis itidem osseis, minoribus, acutiusculis, basin versus cute vaginatis, subnumerosis donatus. Capitis tubercula a latere dextro pauca, minima; a latere sinistro numerosa, majora, præsertim ad genam; inter oculos conferta. Pinna pectoralis rotundata, 12-radiata: caudalis etiam rotundata. Linea lateralis ad initium latè curva, dein recta. Os quadrato-prominulum.

Corpus e latere sinistro unicolor, nigrescens? Pinnæ fuscæ, hinc et hinc hyalescentes, nigrescente guttatæ et punctatæ.

SYNGNATHUS TYPHLOIDES. *Syngn. pinnis omnibus præditus; corpore heptagono; capite compresso, elongato, suprà plano; ano in medio.*

Long. tot. 8½ unc.; *capitis*, 1¾.

A *Syngn. Typhle*, Linn., differt situ ani, longitudine capitis, præsertim ante oculos, numeroque radiorum et scutorum.

	Syngnathus	
	Typhle.	Typhloides.
Long. a rostro ad humerum	1·4	1·75
ab humero ad anum	2·2	2·6
ab ano ad pinnam caudalem	4·3	3·9
capitis ante orbitam	·77	1·1
Alt. rostri minima	·15	·15
Scuta ante anum	17	17
post anum	36	33
Radii pinnæ dorsalis	43	35

In addition to the collections already referred to, Mr. Keith Abbott presented at the same time to the Society a "cock and two hens of the *Fowls* of Herat in Khorassaun, a breed which is," he believes, "unknown in Europe. They are young birds of the real Herat race." These, it was stated, are apparently identical with the *Kulm Fowl* of Dukhun and the *Malay Fowl*, the *Gallus giganteus*, Temm.

A large collection of skins of *Birds* formed at Travancore by P.

Poole, Esq., and presented by him to the Society, was exhibited. Mr. Gould, in bringing it, at the request of the Chairman, under the notice of the Society, remarked upon it as distinguished from all the collections which he had hitherto seen from India, by its possessing not even one European species, and only three or four which occur in Africa; a peculiarity probably attributable to its having been obtained in so southern a locality. He subsequently called the attention of the Meeting to each species contained in the collection, and pointed out among them several which he regarded as being hitherto undescribed.

A large drawing made in Madeira by Miss Young of the *Fish* described by the Rev. R. T. Lowe, in the Second Part of the 'Transactions' (page 123), under the name of *Alepisaurus ferox*, was exhibited. It was taken from a perfect specimen, and consequently showed the correct form of the caudal fin, a part which was mutilated in the individual originally described: its form is very remarkable, the upper lobe being greatly prolonged and falciform. The drawing also showed correctly the form of the outline of the high dorsal fin, which differs from that originally represented.

The exhibition was in illustration of a Paper entitled "Additional Observations on *Alepisaurus*: by the Rev. R. T. Lowe, Corr. Memb. Z.S."

The exhibition was resumed of the undescribed *Shells* contained in Mr. Cuming's collection. Those brought on the present occasion under the notice of the Society were accompanied by characters by Mr. G. B. Sowerby and by Mr. W. Lytellton Powys. They comprised the following species.

Genus Pandora.

Pandora brevifrons, Sow., Species Conchyliorum, Part II. Tab. Pand. secund. figg. 25, 26. *Pand. testâ elongatâ, tenuissimâ, hyalinâ, albâ; latere antico breviore, rotundato, supernè subangulato; latere postico longiore, rostrato, subtruncato; margine dorsali recto, ventrali rotundato; dente in valvâ planulatâ unico, minimo: long.* 0·9, *lat.* 0·15, *alt.* 0·35 *poll.*

Hab. apud Panamam.

Obtained from a sandy bottom, at the depth of ten fathoms.—G. B. S.

Pandora arcuata, Sow., Ibid., figg. 27, 28. *Pand. testâ ovatâ, crassiusculâ, opacâ, margaritaceâ; latere antico breviore, rotundato, postico rostrato; margine dorsali arcuato, ventrali rotundato; lineâ impressâ obsoletâ ex umbone ad marginem ventralem decurrente: long.* 1· , *alt.* 0·6 *poll.*

Hab. apud Sanctam Elenam.

Found on the sands.—G. B. S.

Pandora discors, Sow., Ibid., figg. 29, 30. *Pand. testâ ellipticâ, depressâ, albicante, opacâ; latere antico breviore, postico altiore; margine dorsali postico subarcuato, antico rotundato, ven-*

trali rotundato posticè ventricoso; valvâ sinistrâ posticè radiatim lineatâ, carinâ prope marginem dorsalem posticum conspicuâ: long. 0·55, *lat.* 0·06, *alt.* 0·4 *poll.*

Hab.

Pandora Ceylanica, Sow., Ibid., figg. 20—22. *Pand. testâ elongatâ, depressâ, subflexuosâ, posticè rostratâ, margine superiore postico arcuato recurvo, anticè dilatatâ; dentibus duobus validis et laminâ marginali in valvâ planulatâ, dente unico fornicato in alterâ: long.* 1·1, *lat.* 0·1, *alt.* 0·6 *poll.*

Hab. in Mari Ceylanico, et apud Insulam Muerte, Colombiæ Occidentalis.

Mr. Cuming has a single specimen obtained, at the latter locality, from a depth of eleven fathoms.—G. B. S.

Pandora radiata, Sow., Ibid., figg. 23, 24. *Pand. testâ ovatâ, depressiusculâ, albâ, margine superiore postico recto; latere postico longiore, subtruncato; margine ventrali rotundato; latere antico parvo; valvâ planulatâ radiatim rufo-lineatâ: long.* 0·6, *lat.* 0·15, *alt.* 0·35 *poll.*

Hab. apud Insulam Muertc, Colombiæ Occidentalis.

Dredged from sandy mud, at the depth of eleven fathoms.—G. B. S.

Genus Buccinum.

Buccinum modestum. *Bucc. testâ ovato-fusiformi, albidâ aut luteo-rufescente, strigis longitudinalibus confluentibus rubro-castaneis ornatâ, anfractu ultimo albo fasciato, basi sulcato; anfractibus* 8, *spiraliter striatis et supernè lineis impressis bicingulatis; aperturâ elongatâ; labio externo varicoso, intùs leviter striato: long.* 1·15, *lat.* 0·5 *poll.*

Hab. ad oras Americæ Centralis.

Dredged from muddy gravel in the Bay of Montija, at a depth varying from seven to seventeen fathoms.—W .L. P.

Buccinum Cumingii. *Bucc. testâ ovato-elongatâ, subturritâ, tenui, rufo-stramineâ, maculis parvis saturatioribus striisque albidis elevatiusculis transversis ornatâ; anfractibus* 7—8, *longitudinaliter costatis, costis anfractûs penultimi evanescentibus, ultimi nonnullis; columellâ subrectâ, infernè spiraliter plicatâ; labio externo tenui, intùs lævi: long.* 1·25, *lat.* 0·5 *poll.*

Hab. ad littora insularum Oceani Pacifici.

A single specimen of this very elegant and delicate species was collected by Mr. Cuming on the sands at Grimwood's Isle.—W. L. P.

Buccinum catenatum. *Bucc. testâ ovato-oblongâ, tenui, roseo-albicante, spiraliter tenuissimè striatâ, basi sulcatâ; anfractibus* 6—7, *convexis, superioribus longitudinaliter costatis, tribus ultimis maculis parvulis nivosis per series transversas dispositis; aperturâ lævi, nitidâ; labio externo subcrenulato: long.* 0·75, *lat.* 0·3 *poll.*

Hab.

I have only seen one specimen of this interesting species, which I have reason to believe was brought from the Mauritius.—W. L. P.

Buccinum succinctum. *Bucc. testâ ovato-pyramidali, tenui, spiraliter costatâ, inter costas tenuissimè striatâ, lacteâ; anfractibus 7—8, convexis, ultimo spirâ vix majore; aperturâ ovali; columellâ flexuosâ; labio externo intùs sulcato: long.* 0·75, *lat.* 0·3 *poll.*
Hab. ad littora Insulæ Mauritii.—W. L. P.

Genus Nassa.

Nassa nodifera. *Nassa testâ ovato-acuminatâ, subturritâ, albescente, longitudinaliter costatâ, et spiraliter impresso-striatâ; anfractibus supernè angulatis, costis ad angulum nodoso-tuberculatis; aperturâ albâ, nitidâ; labio externo intùs leviter striato: long.* 0·65, *lat.* 0·35 *poll.*
Hab. ad Insulas Gallapagos et ad littora Panamæ.
Found in coral sand in from six to ten fathoms.—W. L. P.

Nassa concinna. *Nassa testâ ovato-conicâ, peracutâ, pallidè fulvâ fasciis saturatioribus cinctâ, longitudinaliter creberrimè undatim plicatâ, striis impressis contiguis eleganter decussatâ; anfractibus* 8—9, *rotundatis, ad suturas granulis moniliformibus ornatis; aperturâ ovali; columellâ subrugosâ; labio extùs marginato, intùs sulcato: long.* 0·8, *lat.* 0·4 *poll.*
Hab. in Polynesiâ. (Toobouai.)
Collected on the reefs.—W. L. P.

Nassa dentifera. *Nassa testâ ovatâ, subventricosâ, olivaceâ, anfractu ultimo fasciâ pallidiore cinctâ, longitudinaliter granoso-plicatâ, decussatâ; aperturâ fusco-violaceâ; labio externo sinuoso, incrassato, basin versus denticulo unico instructo, intùs leviter sulcato: long.* 0·85, *lat.* 0·45 *poll.*
Hab. ad oras Americæ Meridionalis.
Dredged in the Bay of Arica, in ten fathoms, from a muddy bottom.—W. L. P.

Nassa festiva. *Nassa testâ ovato-globosâ, cœrulescente, punctis variis et anticè lineis contiguis rubro-castaneis pictâ; anfractibus* 8, *longitudinaliter costatis et spiraliter sulcatis, ultimo ventricoso, spirâ peracutâ longiore; aperturâ albâ, rotundatâ; columellâ granoso-plicatâ; labio externo crasso, variciformi, intùs valdè sulcato: long.* 0·85, *lat.* 0·6 *poll.*
Hab. ad Panamam et ad Sanctam Elenam.
Dredged from sandy mud at a depth varying from six to ten fathoms.—W. L. P.

Nassa exilis. *Nassa testâ ovato-conicâ, basi subcompressâ, olivaceâ obscurè fasciatâ; anfractibus* 7—8, *convexis, spiraliter obsoletè striatis, suturis granulis moniliformibus infrà in costellas decurrentibus ornatis, costellis et striis anfractûs ultimi evanescentibus;*

aperturâ violaceâ; labio externo incrassato, intùs subsulcato: long. 0·65, *lat.* 0·3 *poll.*

Hab. sub lapidibus ad Paytam, Peruviæ.

The anterior part of the last volution, towards the lip, is smooth and free from ribs.—W. L. P.

Nassa pallida. *Nassa testâ ovato-conicâ, sordidè albâ, canali fusco maculatâ; anfractibus* 8—9, *supernè subangulatis, longitudinaliter obliquè costatis, spiraliter sulcatis et rugoso-striatis; labio externo intùs striato; columellâ arcuatâ, callosâ: long.* 1·2, *lat.* 0·65 *poll.*

Hab. ad Panamam.

The ribs are not continued over the anterior part of the last volution towards the lip.

Dredged from sandy mud at a depth of six fathoms.—W. L. P.

Nassa scabriuscula. *Nassa testâ ovato-conicâ, acuminatâ, fuscâ luteo fasciatâ, longitudinaliter plicatâ, striis elevatis asperis spiraliter cancellatâ; aperturâ rotundatâ; labio externo albo, anticè fusco maculato, extùs marginato, intùs valdè sulcato: long.* 0·47, *lat.* 0·27 *poll.*

Hab. ad oras Americæ Centralis.

Dredged in sandy mud at a depth of twelve fathoms in the Bay of Montija.—W. L. P.

Nassa complanata. *Nassa testâ ovatâ, complanatâ, olivaceâ fasciis luteis cinctâ; anfractibus superioribus utrinque granosis, ultimo varicibus lateralibus et plicis graniferis dorso evanescentibus; aperturâ ovali; labio externo marginato, intùs sulcato: long.* 0·35, *lat.* 0·22 *poll.*

Hab. ad oras Colombiæ Occidentalis.

Found at Atacamas, under stones.—W. L. P.

Genus Purpura.

Purpura tæniata. *Purp. testâ obovato-oblongâ, transversim tenuissimè striatâ, rufo-castaneâ fasciis fulvo-luteis cinctâ; spirâ brevissimâ; anfractu ultimo permagno; aperturâ elongatâ, subæquali, intùs lacteâ, peritremate castaneo lineis albidis radiato; columellâ planâ, pallidè castaneâ; labio externo intùs denticulato: long.* 0·9, *lat.* 0·62 *poll.*

Hab. in Oceano Pacifico. (Maldon Island.)

I am not aware of this interesting shell having been hitherto described. It bears a considerable resemblance to the *Purp. Vexillum* of Lamarck; but differs from that species in having a much shorter spire, in its very flat *columella*, and in the outer lip being more expanded and radiated. The bands also afford a ready mark of distinction: in *Purp. Vexillum* they are of a reddish brown on a lighter ground; whilst in *Purp. tæniata* the ground colour is dark chestnut, and the bands yellow.—W. L. P.

July 14, 1835.

William Yarrell, Esq., in the Chair.

Mr. Ogilby exhibited several rare and undescribed species of *Mammalia* and *Birds*, brought from the Gambia, on which he made the following observations:

"Through the kindness of Mr. Rendall, who has lately arrived from the Gambia, where his brother is lieutenant-governor of Fort St. Mary and the other British possessions in that neighbourhood, I am enabled to present the Society with the following account of a few new or rare species of *Mammals* and *Birds*; forming, however, but a very small portion of the valuable collection which Mr. Rendall has brought home with him. The collection, it is true, contains very few *Mammals*; these, however, are either altogether new to science or of very rare occurrence, and show how little we know of the zoölogy of the west coast of Africa.

Genus Colobus, *Ill.*

Colobus fuliginosus. This new and interesting species of a very obscure and imperfectly known genus, measures 2 feet 5 inches from the upper lip to the extremity of the tail, which organ is itself 2 feet 8 inches long. All the upper parts of the body are of a light smoky blue colour, very similar to that of the *common Mangabey*, (*Cercopithecus fuliginosus*, Geoff.), rather darker on the shoulders than elsewhere, and copiously tinged with red on the *occiput*: the colour of the back descends some way down on the external face of the fore arms and thighs, and also a short distance, but more obscurely, on the upper surface of the tail. With these exceptions, all the rest of the extremities, the arms, fore arms, thighs, legs, hands, feet and tail, are of a uniform light or brick red, and a more intense shade of the same colour extends up the fore part of the shoulders, and spreads over the breast, throat and whiskers, which latter are long, directed downwards on the cheeks, and backwards into long pointed tufts behind the ears, which are small, round, naked, and furnished with a distinct *helix*, in all respects like that of the human subject. The belly and flanks are of a dirty yellowish white, and a circle of black stiff hair passes over the eyes. The face, palms of the hands and soles of the feet are naked and of a violet colour; the callosities are of moderate size; the thumbs of the anterior extremities are wanting, but their situation is marked by a small nailless tubercle; the middle and ring fingers, both on the fore and hind hands, are of equal length, as are likewise the index and little fingers; and it is to be observed, that the latter are united to the contiguous middle or ring fingers, respectively, through the greater part of the first *phalanx*, as in the *Siamang*, *Pithecus syndactylus*, F. Cuv. The face is short, the head round, and the whole form and habit of the animal similar to those of the *Semnopitheci*. The teeth are of the usual form and number, and there are large and very distinct cheek pouches. I was the more particular in making this last observation, because the organs in question had not been previously recorded as existing in the *Colobi*, and because M. Geoffroy St. Hilaire in his valuable lectures, of which it is a matter of great regret that so small a portion has been given to the public, even doubts their existence. Of this, however, there can be no longer any reasonable doubt; they are extremely apparent and rather capacious in the specimen now under description. The teeth of this specimen, a very old female, without even excepting the canines, which do not appear to have been remarkably large at any time, are worn almost down to the gums. Mr. Rendall possesses a second and younger specimen which, however, differs in no respect from that just described.

The arrival of these skins, probably the only perfect specimens of the genus *Colobus* in Europe, with the exception of that in the Leyden Museum, and of the specimens recently brought from Abyssinia by Dr. Rüppell, naturally led me to refer to the imperfect skins noticed by Mr. Bennett in the 'Proceedings of the Committee of Science and Correspondence' of this Society for 1832, page 122, and to examine generally the characters of the different species already described. The result of my investigation into this subject leads me to conclude that we at present possess sufficient indications of six distinct species of *Colobi*, which may be characterized as follows:

1. *Col. polycomos*, Schreb., "with the head and shoulders covered with long, coarse, flowing hair, of a dirty yellowish colour, mixed with black; body, arms and legs of a fine glossy blackness, covered with short hair; tail of a snowy whiteness, with very long hair at the end forming a tuft."

2. *Col. Ursinus*, with very long glossy black hair over the whole body and extremities, and a long snowy white tail slightly tufted at the end: described from two imperfect skins, without head or hands, the same as those noticed by Mr. Bennett in the 'Proceedings' for 1832. Mr. Bennett considered these skins as referrible to the *Col. polycomos*; and the general colour of the body and tail, as well as a slight appearance of grizzled or gray hair about the neck, where the head has been cut off, in both the specimens, would at first sight appear to justify his views; but the words of Pennant, (the only original describer of the species,) as quoted above, imply that the "long dirty yellowish hair," which he compares to a full-bottomed perriwig, grows from the shoulders and neck as well as the head, and expressly declare that the hair on the rest of the body, as well as on the legs, is short. Now in the specimens at present under consideration the very reverse of this is observable. The black hair of the

shoulders, as already observed, has a partial mixture of silvery white on the anterior face just where the head has been cut off; but it is not longer than the hair upon the rest of the body and limbs, which is moreover 5 or 6 inches in length, and in texture and appearance not unlike that of the *Ursus labiatus*. The whole animal in fact resembles a small *Bear*, and is covered with the same uniform, long, black, and glossy fur upon every part except the tail, which, at the root more particularly, is furnished with much shorter hair. Whether or not this species, like the *polycomos*, has the head ofa different colour from the body, is a subject for further observation: the white or silvery hairs already mentioned as still remaining about the shoulders, render it extremely probable that it has, but in no case can it form the striking contrast in length, nor present the long flowing mane or wig-like appearance ascribed to the animal observed by Pennant. Mr. Gould, who procured these skins for the Society, reported them as coming from Algoa Bay; we know enough of the zoology of that part of Africa, to render this account extremely doubtful, and the probability is, either that Mr. Gould was misinformed, or that he may have mistaken Delagoa Bay for Algoa, which, from the similarity of sound, might readily happen. If this conjecture should prove correct, it would follow that the *Col. Ursinus* was the analogue of the *Col. polycomos* on the opposite coast, and the conjecture receives further countenance from the fact of many other known species of *Mammals* having such analogues in the same localities.

3. *Col. Guereza*, Rüpp., with the head, face, neck, back, limbs, and basal half of the tail, covered with short black hair; the temples, chin, throat, and a band over the eyes, white; the sides, flanks from the shoulder downwards, loins and buttocks, clothed with long flowing white, which hangs down on each side like a loose garment; the tip of the tail furnished with a tuft of dirty white. Described and figured by Dr. Rüppell in his 'Neue Wirbelthiere.'

4. *Col. ferruginosus*, Geoff., " with a black crown; back of a deep bay colour; outside of the limbs black; cheeks, under part of the body, and legs of a very bright bay; tail black." This species, originally thus described by Pennant, was, like the *Col. polycomos*, brought from Sierra Leone.

5. *Col. fuliginosus*. Smoky blue above, dirty yellowish gray beneath; with the cheeks, throat, tail and extremities brick red. Brought from the Gambia.

6. *Col. Temminckii*, Kuhl, " with the hands, face, and tail, purplish red; rest of the members, clear red; belly, reddish yellow; head, neck, back, shoulders and outer face of the thighs, black." Habitat unknown: described from a specimen formerly in Bullock's Museum and now in that of Leyden. Notwithstanding some slight discrepancies, I agree with Mr. Bennett in referring to this species the two other skins of the Society's Collection, noticed by him in the Part of the 'Proceedings' already referred to. These skins

were procured at the same time, and most probably in the same locality, as those of the *Col. Ursinus*. They are equally imperfect; the hair of the shoulders and back, dead black, and without the beautiful gloss of the *Col. Ursinus*; on the flanks and over every part of the limbs the colour is a uniform maroon or clear purple red; the head and hands are wanting, but the maroon of the tail is much deeper than that of the legs and flanks, approaching almost to black, and, in the older of the two specimens, actually replaced by that colour on the terminal half of the tail. If the conjecture already thrown out with regard to the derivation of these skins should turn out to be well founded, and if the animal here described eventually proves to be identical in species with the *Col. Temminckii*, of which I see no just reason to doubt, it follows that the hitherto unascertained habitat of that species must be sought on the east coast of Africa. Fischer, probably induced to it by the authority of M. Temminck, has united the *Col. Temminckii* with the *Col. ferruginosus* or *bay Monkey* of Pennant; the short descriptive characters above given in the words of their original describers, leave no doubt as to the specific distinction of these two animals; in which, indeed, though the colours are the same in both, their distribution is reversed, the bay or red of the one occupying the same situation as the black of the other.

Genus PTEROPUS.

Two undescribed *Pteropi*, brought over by Mr. Rendall, present some modifications of dentition which have not been observed in other species, and which appear to indicate a subgenus, probably representing the common Asiatic forms on this coast of Africa. These animals have the incisors and canines of the same form and number as the rest of the genus, but there are only three *molares* in the upper and five in the lower jaw. The incisors are small and regular, the canines of intermediate size; the first false molar in the lower jaw is small and of the normal form, but the second in this jaw and the first in the upper are of the same form as the canines, and very little inferior to them in size, so that when the mouth is opened there appear to be four canines in each jaw; next follows in either jaw a tooth with a large fang upon the outer edge and a smaller one within, which is of intermediate form between the true and false molars; after which come two normal molars in the lower and one in the upper jaw. All the molars are separated from one another by a vacant space on each side; this gap is particularly large between the real and spurious canines or first false molars in the upper jaw, the corresponding space in the lower having, in its centre, the small false molar already mentioned.

Pteropus Gambianus.

Length from the nose to the centre between the thighs	6¾ in.
Length of the head from the nose to the root of the ear. .	1¾
Expanse of the wings	1 f. 8 in.

The fur is of a very soft woolly texture, and of a uniform reddish mouse colour over every part, only rather lighter on the sides of the neck and belly than on the superior surface of the body. The wings are ample, naked except upon the thighs and arms, and of a light brown colour; there is no real interfemoral membrane; but the whole posterior face of the thighs and body is margined with a narrow band of integument about half an inch broad, and covered above with the same description of hair as the back. The ears are small, naked, erect and elliptical, and the eyes placed much nearer to them, and consequently at a greater comparative distance from the muzzle, than in the ordinary *Pteropi*.

Pteropus macrocephalus. The whole length of this species is barely 6 inches, the length of the head 2 inches, and the expanse of the wings about 1 foot 3 inches. The colour, form and appearance are much the same as in the last species, but the *Pter. macrocephalus* is at once distinguished by the great size of the head, as well as by the colour of the flying membranes which are very dark brown, nearly approaching to black. The canine teeth also, as well as the head, are of much larger size, and the interfemoral margin is narrower. Dr. Horsfield, from the great length of the head, thinks that this species may approximate to the *Macroglossus* of M. F. Cuvier, the *Pter. rostratus* of his own 'Zoological Researches in Java.' It is to be observed, however, that it differs in dentition from that animal, as well as from all other *Pteropi* hitherto described; and, with the *Pter. Gambianus*, may furnish the type of a new genus to those who regard such modifications as amounting to generic characters. Mr. Rendall's collection contains numerous specimens of both the species here described.

The only other *Cheiropter* brought home by Mr. Rendall is the *Megaderma Frons* of Geoffroy, well described by Daubenton; to whose account I shall only add, that the wings are of a deep orange colour, and the fur unusually long and soft.

Genus HERPESTES, *Ill.*

Mr. Rendall has brought over specimens of two *Herpestes*, one of which, the *Herpestes Mongos* of Linnæus, very well figured and described by Buffon (Hist. Nat., tom. xiii. tab. 19.), deserves to be noticed, for the purpose of correcting the habitat of the species, which, upon Buffon's authority, has hitherto been given as India, but which Mr. Rendall's specimens clearly show to be the west coast of Africa. The mistake originally arose from Buffon's having identified the *Mangouste à bandes*, the species at present under consideration, with the *Mongos* of Kæmpfer, unquestionably an Indian species (the *Herpestes griseus* of authors), and still commonly called by that name in Upper India, where many natives and Europeans keep it in a semidomestic state, for the purpose of destroying vermin. Under these circumstances, though there are few cases in which such a change is advisable, or even excusable, perhaps it would be better to follow the example of M. Desmarest in the 'Dictionnaire des Sciences Naturelles,' and substitute the specific name of *fasciatus* for that of *Mungos*, as regards this animal, reserving the latter name for the species to which it really belongs, and which is at present designated by the very vague term of *griseus*.

The other species brought by Mr. Rendall, and which I propose to call *Herpestes Gambianus*, is new to science, but is in some degree allied to the *Herp. vitticollis*, characterized by Mr. Bennett at a recent meeting of the Society (page 66). It is, however, much smaller than that species, measuring only 17 inches from the nose to the root of the tail, whilst the *Herp. vitticollis* measures fully 23; the tail also measures 13 inches in the latter animal, and only 9½ in the former. The general colour of the body is that grizzled gray and brown, so common among the *Herpestes*, upon the upper parts, clearer upon the head, neck and shoulders, and copiously mixed with red upon the latter part of the back, hips and thighs, particularly upon the latter, which are nearly all red; the tail has a copious mixture of black, and is terminated by a small tuft of pure black; but this is only found at the extreme point, and does not extend over a considerable portion of the organ, as in *Herp. vitticollis*. The throat and sides of the neck are pale silvery brown; the breast, belly, and interior of the limbs, red; the feet alone, not the whole legs as in *Herp. vitticollis*, are black, and a stripe of dark brown extends from the ear to the shoulder, along each side of the neck. The hair lies smooth and close to the skin.

There are some peculiarities in the dentary system of these animals which are deserving of notice.

Herp. fasciatus and *Herp. Gambianus*. Teeth $\frac{6}{6} : \frac{1-1}{1-1} : \frac{5-5}{5-5}$. The incisors small, simple, and regular; the canines of moderate size; the first two false molars of the normal form; the third, carnassier, of rather small size compared with its analogue in genera more decidedly carnivorous, and the last two, in both jaws, tuberculous. The rudimentary false molar, mentioned by M. F. Cuvier, is wanting in both these species; nor can its absence be owing to the age of the specimens examined, as some were evidently young animals, though arrived at adult age. Its entire absence is further confirmed by the situation of the teeth respectively, in the reciprocal position of the jaws, the first inferior false molar filling up the entire vacant space between the corresponding superior tooth and the canine of the same jaw.

This system differs considerably from that ascribed to the *Herpestes* by M. F. Cuvier (Dents des Mammifères, i. 99.), but agrees in all respects with the description of M. Desmarest. The following, however, is equally foreign to the accounts of both these authors, and, were not all the other characters so perfectly accordant with those of *Herpestes*, would decidedly indicate a new genus. Indeed, it so stands in my notes, under the name of *Mungos*, but with a note of interrogation, as I have only been able to examine a single specimen.

Mungos? vitticollis. (*Herpestes vitticollis*, Benn.) Teeth $\frac{6}{6}$: $\frac{1-1}{1-1}$: $\frac{6-6}{7-7}$. The incisors and canines have nothing remarkable either in form or number. The first false molar in either jaw is tuberculous; the second and third consist of one large conical fang in the centre, and a smaller tubercle on each side of it; then follows the carnassier, and after it two tuberculous teeth in the upper and three in the lower jaw. The first of these in the upper jaw is large and triangular; the second, short and broad, its latitudinal dimensions more than doubling its longitudinal; the three of the lower jaw are small, simple, rather distant from each other, and of cylindrical form.

This is a system of dentition which, as far as I am aware, is altogether peculiar, and if confirmed by the examination of other specimens, will undoubtedly form the type of a new genus. Perhaps further and more rigid examination may even detect different species from the different localities, as specimens have arrived for the Society from Travancore and Bombay, and one from Madras, at the British Museum.

Genus Sciurus, *Linn.*

Sciurus Gambianus. This animal belongs to that subgenus of *Squirrels* which are distinguished by having round untufted ears and long cylindrical tails, covered with short hair, and not distichated. The upper surface of the body and root of the tail are uniform mouse-coloured brown, with a slight shade of yellowish red, and everywhere pointed thickly with gray, from the hairs being separately annulated with black and yellowish white; all the under parts are uniform dirty white. The tail is long, covered with short hair, towards the root of the same uniform colour as the back, but annulated or fasciated from thence to the tip with numerous alternate bands of black and light grayish brown, precisely like those which mark the back of the *Ryzæna* and the *Herpestes fasciatus*. The whole length of the animal is about 9½ inches, and the tail about the same. The ears are very short and rounded.

From Dr. Smith's description of his *Sci. Poensis*, I imagine it must approach this species in form, but is distinguished by its smaller size, different colour, and unannulated tail.

Of the numerous *Bird-skins* in Mr. Rendall's collection I shall only notice the two following, which appear to be new species, and which derive an additional interest from their generic affinities. The first I propose to call, out of compliment to the gentleman to whose kindness we are indebted for the present exhibition and description,

Numida Rendallii. **This beautiful species, which Mr. Gould agrees with me in considering new to science, is of smaller size than the**

common *Guinea Fowl*, and in this resembles the *Num. cristata*. The head and upper part of the neck are bare, the former covered with a wrinkled scalp-like skin, gathered into a small keel-shaped ridge in the centre, about half an inch in length, and not more than a quarter of an inch high. The neck is black, naked principally on the throat and sides, and covered on the back with glossy black hair, or rather small feathers, with the beards so fine as to be perceptible only upon close examination. The lower part of the neck and breast are covered with feathers of a beautiful violet colour without spots, clearest on the breast, but with a browner hue upon the upper surface. The back, shoulders, and rump are of the usual brown colour, speckled thickly with minute white spots, each surrounded with an intensely black ring, much smaller and more numerous than in the common species, and intermixed with an infinity of still more minute white points. The greater coverts of the wings and whole under surface of the body are black, with large white spots; the quill feathers spotted towards the shaft, and barred transversely on the lower margin only, and the tail feathers light gray, with white spots in a black ring, and interspersed with numerous black dots or points. The white spots of the coverts, quills, and belly, are not surrounded by black rings like those of the back and tail. This appears to be the common species on the banks of the Gambia.

Genus GYPOGERANUS, *Ill.*

A *Secretary* in Mr. Rendall's Collection offers some peculiarities, when compared with the common Cape animal, which at first induced me to believe that it might be a distinct species, and in this opinion I was in some manner confirmed by the more experienced and concurrent belief of Mr. Gould; but I confess that a more attentive comparison of specimens from both localities has considerably shaken my original opinion. I may remark, however, that still greater differences are indicated by Sonnerat in his figure and description of the *Secretary* of the Philippine Islands, and which, as far as I am aware, has not been noticed by more recent naturalists. Whether or not the *Secretaries* of these three localities, the Cape of Good Hope, the Gambia, and the Philippines, may eventually turn out to be really distinct, or only varieties of the same species, must be left for future observation; but it is at least useful to direct the attention of travellers, collectors, and zoologists to the subject, and with this intention I will here state the principal marks which appear to distinguish each, giving them provisionally specific names, derived from the localities which they respectively inhabit.

1. *Gyp. Capensis*, with the plume of long cervical feathers commencing upon the *occiput*, spreading irregularly over the upper part of the neck, narrow throughout the greater part of their length as if the beard had been cut on each side close into the shaft of the quill, and spreading only at the point. Inhabits the Cape of Good Hope.

2. *Gyp. Gambiensis*, with the cervical crest commencing some distance below the *occiput*, arranged in two regular series, one on each side of the neck, with the intermediate space clear, and composed of long spatule-shaped feathers, much broader throughout than in the last species, though similarly decreasing in width towards the root. In both these species the two middle feathers of the tail are considerably longer than the others. Inhabits Senegambia.

3. *Gyp. Philippensis*, with the cervical crest spread irregularly from the *occiput* to the bottom of the neck, the longest feathers being those situated the lowest, which is just the reverse of what we observe in *Gyp. Gambiensis*, and with the two exterior tail feathers the longest, so that the tail appears forked. This is apparent not only in Sonnerat's figure, but is expressly mentioned in his detailed description, and, if confirmed by future observation, is clearly indicative of a specific distinction. Inhabits the Philippine Islands. Described and figured in Sonnerat's 'Voyage à la Nouvelle Guinée,' p. 87, t. 50.

The colours of the three species or varieties here indicated do not seem to be materially different in other respects."—W. O.

A collection of skins of *Birds*, formed in Hayti by J. Hearne, Esq., Corr. Memb. Z.S., and presented by him to the Society, was exhibited. At the request of the Chairman, Mr. Gould brought the specimens severally under the notice of the meeting. They comprised sixteen species, two or three of which appeared to be hitherto undescribed; including a *Humming Bird*, which Mr. Gould believed to be the representative of a new species, allied to *Trochilus pectoralis*, Lath.

There was also exhibited the skin of the *Mammiferous* animal recently described by M. Brandt, in the Transactions of the Imperial Academy of St. Petersburgh, as the type of his new genus *Solenodonta*. It was obtained by Mr. Hearne in Hayti, where it is known as the *Agouta*. Respecting it Mr. Hearne writes, "The only quadruped, I believe, found on the island on the landing of Columbus was the *Agouta*, a little larger than, and somewhat resembling, a *Rat*, with an equally long tail and with a longer snout; whose food is chiefly grain, although the animal is carnivorous also; its hair is red. I had one alive intended for the Society, but it received a wound from a cat of which it died, and the skin is too miserably preserved, I fear, to be of use; but I shall bring it myself, or early send it; and I shall endeavour to get another alive, and in such state to send it to you."

The following note by H. Bruce Campbell, Esq., on a white variety of the *Blackbird, Turdus Merula*, Linn., recently presented by him to the Society and now living at the Gardens, was read.

"The curiosity which I have the pleasure to present to the Zoological Society, (a bird of the *common Blackbird* kind, the *Merle noir* of M. Temminck, entirely white, including the plumage, beak, legs, and feet,) was discovered in June, 1832, near a farmhouse in the occupation of Mr. Owkam at Bilsthorpe, Nottinghamshire. There were two other young ones in the nest, the plumage of which, as well as that of the parent birds, was of the ordinary caste. The old birds made a second nest in the following month, near to the first one, in which four eggs were deposited; one of these was entirely different from the rest, resembling in colour the egg of the *common Duck*; this nest was unfortunately taken by some boys in the village; it is probable if this had not been the case, that there would have been produced a second extraordinary freak of nature.

" There is at the present time in the possession of the Rev. Joshua Greville at Weston Pavell, near Northampton, a pyeballed male bird of this species, the white preponderating; it is now six years old and an excellent songster. It was originally black, and when about two years old its plumage changed and became spotted black and white.

" It is said that these birds have been occasionally found white on the Alps and other high mountains, which alteration in colour is ascribed to the continued cold in those places, an effect which it is known is produced in the case of the *Ptarmigan*, &c. Albin mentions having had a bird of this species " finely mottled," sent to him by Sir Robert Abdy out of Essex. Buffon makes mention of a white *Nightingale*, and in the Museum at Oxford, there is a *Chaffinch* completely white. Many other instances of white varieties are furnished by authors and by collections.

" The present is a male bird, but though he has the quickly repeated chirp and all the habits of his kind, nature, when she altered her regular course and presented him with his snowy costume, seems therefore to have denied to him the usual vocal powers of his tribe: he is no warbler, but from his frequent fruitless attempts, it may be inferred, that he feels the dear price at which he has been permitted to wear his novel and attractive plumage."

With reference to an observation in the preceding note, Mr. Yarrell remarked that no inference could safely be drawn from the colour of the egg as to that of the bird to be produced from it: a deficiency of the superadded colouring, reducing the egg to its ground colour alone, being by no means an uncommon occurrence, and the product in such cases not deviating from the usual appearance of the race.

Mr. Cox added that he had at present under his care a nest of the *domestic Sparrow*, *Passer domesticus*, Briss., all of which, with one exception, exhibited the usual characters of their race: one, however, was entirely white. He stated his intention of presenting to the Society this variety, as soon as the young bird was sufficiently reared.

The following note by Sir Robert Heron, Bart., M.P., Vice-President, was read.

" My male *black Swan, Cygnus atratus,* died yesterday (June 29, 1835). He had been long going off, apparently through old age, though not more than fifteen; yet he has left four young ones, not three months old. His widow is still healthy, and does not appear to grieve much; nor did she pay any attention to him in his last days, probably because engaged with her young. They have hatched in all forty-four, and reared forty young ones. They were chiefly hatched in January, and always in an earthern wigwam built for them in a small island. Once there were two broods in a year, the next year only none."

July 28, 1835.

William Yarrell, Esq., in the Chair.

Specimens were exhibited of eight species of *Mice* and *Rats*, collected in India by Walter Elliott, Esq. They were brought under the notice of the Meeting by Mr. Gray, who stated that five of them were hitherto undescribed. Of these he pointed out the distinguishing characteristics. Among them were three which, on account of their possessing a peculiarity in the structure of their molar teeth, he regarded as representing a section in the genus *Mus*, which might, perhaps, be considered deserving of generic distinction. The remaining species were the *Mus oleraceus*, Benn.; the *Mus platythrix*, Ej.; and the *Mouse* which Mr. Gray has figured, from Gen. Hardwicke's drawings, in the 'Illustrations of Indian Zoology,' under the name of *Arvicola Indica*: it is, however, really a *Mus*.

Mr. Gray stated that Mr. Elliott had made copious notes respecting the habits of the several species exhibited, and that it was his intention to communicate them to the Society. He added that Mr. Elliott's collection contained many other interesting specimens of *Mammalia*, as well as of other classes of animals; and that selections from it would be brought, from time to time, under the notice of future Meetings.

Mr. Gray also exhibited specimens of two remarkable species of *Partridge*, *Perdix*, Mey., which he regarded as previously undescribed. They were brought from the Gambia by Mr. Rendall, a selection from whose collection had been exhibited at the previous Meeting by Mr. Ogilby. Mr. Gray pointed out the distinguishing characteristics of the birds exhibited.

Mr. Gray subsequently exhibited, also from Mr. Rendall's collection, several *Shells* which appeared to him to be hitherto unnoticed, including an undescribed species of *Cryptostoma*, Blainv.

Among the *Shells* of the same collection was one that had been incrusted by a *Coral*, but in which the mouth had been preserved open in consequence of its having become the habitation of a *Pagurus*, the movements of which through the aperture had prevented that part of the shell from being involved in the general incrustation. Mr. Gray exhibited other specimens of analogous incrustations, some of which had been regarded by authors as constituting real species. The incrusting *Coral* is generally an *Alcyonium*, but in some cases it is a *Cellepora*.

The exhibition was resumed of the previously undescribed species of *Shells* contained in the collection of Mr. Cuming. Those brought on the present evening under the notice of the Society were accompanied by characters by Mr. G. B. Sowerby. They comprised the following species of the

Genus PECTEN.

PECTEN SUBNODOSUS. *Pect. testâ subæquivalvi, æquilaterali, auriculis inæqualibus; striis radiantibus numerosissimis, radiisque decem, crassis, rotundatis, alternatim nodoso-vesicularibus vel subnodosis; intùs plerumque purpureo signatâ: long.* 5·25, *lat.* 2·75, *alt.* 5· *poll.*

Variat α, *colore rufo-fuscescente, striis albis.* *Hab.* ad Sinum Californiæ.

β, *coloribus subvariegatis pictâ seu fuscâ, maculis albis utplurimum notatâ.* *Hab.* ad Insulam Platæ, Columbiæ Occidentalis.

γ, *testâ depressiore, colore aurantiaco nitente.* *Hab.* ad Sinum Tehuantepec, Mexicanorum.

Found in sandy mud and coral sand in from ten to seventeen fathoms.—G. B. S.

PECTEN MAGNIFICUS. *Pect. testâ subæquivalvi, æquilaterali, auriculis inæqualibus; striis radiantibus exiguis numerosissimis, radiisque tredecim, crassiusculis, rotundatis, nonnunquam subnodosis; intùs albâ purpureo marginatâ: long.* 5·5, *lat.* 2·, *alt.* 5·5 *poll.*

Variat α, *colore sanguineo nitente.* *Hab.* ad Insulas Gallapagos.

β, *testâ fuscâ, maculis albidis variegatâ.* *Hab.* ad Insulam Platæ, Columbiæ Occidentalis.

A single specimen of var. α was found in coral sand at a depth of six fathoms: var. β was also found in coral sand in seventeen fathoms.—G. B. S.

PECTEN DENTATUS. *Pect. testâ valdè inæquivalvi, æquilaterali, auriculis æqualibus; valvâ planulatâ sulcato-radiatâ et striatâ, alterâ valdè convexâ, lævigatâ, radiatim sulcatâ, margine ventrali profundè dentato: long.* 3·75, *lat.* 1·5, *alt.* 3·5 *poll.*

Hab. ad Sanctam Elenam.

Found among sand and stones in twelve fathoms.

The flat valve is of a dark brown colour outside, white with a broad dark purple margin within; it falls deeply into the convex valve, whose margin is deeply cut between the ribs; this latter valve is of a brownish colour outside, and nearly white within.—G. B. S.

PECTEN TUMIDUS. *Pect. testâ subinæquivalvi, æquilaterali, auriculis magnis, subæqualibus; valvâ alterâ turgidâ, fusco rufescente albidoque variegatâ, radiatim* 18-*costatâ, costis supernè planulatis, interstitiis transversim striatis, alterâ turgidiore, albicante, radiatim sulcatâ, costis interstitialibus latioribus, planulatis, lateribus*

fusco-variis; marginibus ventralibus acutè dentatis : long. 1·75, *lat.* 1·, *alt.* 1·75 *poll.*
Hab. ad Sanctam Elenam et ad Salango, Columbiæ Occidentalis.
Found in sandy mud at from six to ten fathoms.—G. B. S.

Pecten circularis. *Pect. testâ suborbiculari, tumidâ, subæquivalvi, æquilaterali, fusco alboque variâ, auriculis magnis, subæqualibus; costis radiantibus octodecim interstitiis latioribus, arcuatim striatis; valvâ alterâ sulcis profundioribus : long.* 1·5, *lat.* 0·8, *alt.* 1·4 *poll.*
Hab. ad Sinum Californiæ. (Guaymas.)
Found in sandy mud at a depth of seven fathoms.—G. B. S.

Pecten aspersus. *Pect. testâ suborbiculari, depressiusculâ, subæquivalvi, æquilaterali, auriculis inæqualibus, dextrâ majusculâ; valvarum alterâ radiatim costatâ, pallescente seu albâ, costis quatuordecim majoribus, rotundatis, lævibus, alterâ radiatim costatâ, costis quindecim acutioribus, fuscis, punctulis cærulescentibus aspersis, interstitiis tenuissimè transversim striatis, pallescentibus: long.* 1·4, *lat.* 0·5, *alt.* 1·3 *poll.*
Hab. ad Tumbez, Peruviæ.
Dredged in soft mud at a depth of five fathoms. This species has sometimes a few irregular blotches of white sprinkled over the darker coloured valve.—G. B. S.

Pecten spiniferus. *Pect. testâ subovatâ, depressiusculâ, subæquivalvi, æquilaterali, auriculis inæqualibus, sinistrâ majore; valvis radiatim costatis, costis utriusque novem, latis, squamuliferis, squamulis fimbriatis; valvæ alterius marginibus dorsali, antico, posticoque spiniferis : long.* 0·9, *lat.* 0·25, *alt.* 0·9.
Hab. ad Insulam Lord Hood's dictam, Oceani Pacifici.
A single specimen of this beautiful little shell was taken on the reefs in coral sand.—G. B. S.

Pecten parvus. *Pect. testâ subovatâ, depressiusculâ, subæquivalvi, æquilaterali, albicante, auriculis inæqualibus, graniferis; valvis radiatim costatis, costis octo inæqualibus, transversim striatis; interstitiis radiatim sulcatis et transversim striatis : long.* 0·7, *lat.* 0·25, *alt.* 0·8 *poll.*
Hab. ad Insulam Lord Hood's dictam, Oceani Pacifici.
Found in coral sand on the reefs.—G. B. S.

Genus Xylophaga.

Xylophaga globosa. *Xyl. testâ globosâ, margine dorsali postico declivi, valvis accessoriis majusculis : long.* 0·4, *lat.* 0·35, *alt.* 0·35 *poll.*
Hab. ad Valparaiso.
Found in a piece of wood dredged from a depth of a hundred fathoms.—G. B. S.

A paper was read comprising "Descriptions of a few *Invertebrated Animals* obtained at the Isle of France," by Robert Templeton, Esq. It was accompanied by coloured drawings of the new species described in it, which were exhibited.

Of these animals two belong to the *Radiated* division of the animal kingdom. They may be characterized as follows:

ACTINIA SANGUINEO-PUNCTATA. *Act. flavescenti-rufescens, punctis sanguineis confertis per series longitudinales numerosas dispositis ornata; ore guttis cœruleis quinque circundato; tentaculis viridescentibus, hyalinis.*
Hab. vix uncialis, super saxa.

XENIA DESJARDINIANA. *Xen. pallidè livido-cœrulea; polypis* 8-, *rariùs* 9*-radiatis.*
Hab. super lapides prope Black River.

The mass from which the polypes arise is spread over the surface of the stones to the extent, in many places, of more than a foot. It is usually about an eighth of an inch in thickness, and appears to be composed of an infinite interlacing of tubular stems. From the sides of these stems are given off peduncles, each of which terminates in a disc having a central mouth and eight (rarely nine) rays. These rays are simple on their under or outer surface, pectinated along their edges, and furnished on the upper or inner surface with short processes, having cupped or sucker-like extremities. The discs are perpetually in motion, waving from side to side as though in search of objects; and when anything comes in contact with their rays or *tentacula*, the suckers instantaneously close in upon it, and the *tentaculum* doubles itself up like a finger and conveys the prey to the mouth: if the object be large, two or three of the *tentacula* are employed. When the prey is so large as not to admit of its being swallowed, the *tentacula* relax their hold and allow it to escape.

The remaining two belong to the *Annulose* type, and appear to represent two genera among the *Annelida*, nearly allied to the *Serpulidæ*.

ANISOMELUS.

Os tentaculis simplicibus octo, per paria dispositis, filiformibus, prehensilibus instructum.

Branchiæ? simplices, tentaculiformes, pedibus haud multo longiores, in segmentis corporis quatuor anterioribus sitæ.

Testa cylindrica, calcarea, erecta, ad basin in saxis immersa.

OBS. Numero et symmetriâ tentaculorum, necnon branchiarum simplicitate?, a *Terebellâ* cæterisque generibus affinibus distinguitur.

ANISOMELUS LUTEUS.
Long. corporis vix ¼ unc.
Hab. in saxis corallinis apud Black River.

Of the eight *tentacula* of this *Annelide*, one pair, that towards the ventral aspect, is short, and the opposite pair is long, being fully equal in length to the entire body: the intermediate pairs are intermediate also in length. When undisturbed, the animal projects from its tube or shell as far as the fifth or sixth segment, swinging itself from side to side, and moving its *tentacula* about. If anything is discovered suitable for food, the extremity of one or more of the *tentacula* is rolled around it, and by this means the substance is conveyed to the mouth. The *tentacula* are numerously ringed, and have in their interior a tube in which oval globules are distinctly seen moving to and fro, as the motions of the *tentacula* affect a few contiguous rings.

PIRATESA.

Os tentaculis seu branchiis numerosis, longè ciliatis, subulatis, simplici serie dispositis, cinctum.

Testa cylindrica, calcarea, erecta, e saxo parum prominente.

OBS. Genus propter tentaculorum branchiferorum dispositionem a *Sabellá*, Cuv., sejungendum.

PIRATESA NIGRO-ANNULATA. *Pir. brunnea, tentaculis pallidioribus nigro confertim interruptè annulatis.*

Hab. in saxis corallinis apud Black River.

The *cilia* of the *tentacula* arise in a single row along each edge of the upper surface, and turn in upon any substance that is seized so as to embrace it tightly: when at rest, they are doubled up into little coils or knots, and are only expanded when the animal is searching for food. When engaged in this operation it elevates itself out of the tube, turns the disc down with very deliberate motion towards the adjacent part of the stone, and apparently examines the surface with minute attention; the *tentacula* at this time being constantly moved about so as to ensure the entrapping of any animal that may rest within their reach.

August 11, 1835.

Dr. Horsfield in the Chair.

A letter was read, addressed to the Secretary by J. B. Harvey, Esq., Corr. Memb. Z.S., and dated Teignmouth, June 7, 1835. It referred to the writer's success in dredging over the rocky ground off Torquay, whence he anticipates that he shall obtain many interesting *Corallines* and *Asteriæ*. A selection from those already collected by him, including a specimen of the genus *Comatula*, accompanied the letter and were exhibited.

Mr. Harvey states that the specimen of *Caryophyllia Smithii*, referred to in a previous letter, (page 4,) is still living in his possession and is quite healthy. "The half one by the side of it, which was broken in forcing it from the rocks, is also alive, and has nearly reproduced the round shell: the cup was destroyed, at the time it came into my hands, for considerably more than half its circumference; in the course of the eight months which have since elapsed the reproduction has been such as nearly to complete the circumference of the cup. The *Pyrgomata* on the coralline are also alive."

Mr. Burton, at the request of the Chairman, placed upon the table a specimen of the species of *Ratelus* originally described by Pennant as the *Indian Badger*, and by Shaw under the name of *Ursus Indicus*. To aid in its comparison with the *Ratel* of the Cape of Good Hope, from which Mr. Burton regards it as distinct, he describes it in considerable detail.

"This animal, which evidently belongs to the last genus of Cuvier's arrangement of the *Plantigrades*, measures from the tip of the nose to the extremity of the tail 3 feet 3 inches, of which the head and neck occupy 11½ inches, leaving 21½ for the length of the body. The anterior extremity is 8 inches long, exclusive of the nails; the posterior about 6. The length of the head may be about 6½ inches; but the great thickness of the neck, the outline of which is continuous with the *vertex*, renders the exact occipital termination of the head imperceptible. From the extremity of the nose to the inner angle of the eye is 2 inches: from the same point to the external opening of the ear is 4½. From the comparative length of the body and limbs it results that the animal is very low on the legs (or, as the French authors term it, *trapu*), long in relation to its height, and necessarily higher before than behind. When standing, it cannot be computed at more than 9 or 10 inches high at the shoulder, and about 6 or 7 at the crupper.

"The head is rather small for the size of the neck and body. The eye is likewise remarkably diminutive, the distance between the extreme points of the *canthi* being less than half an inch, an opening which leaves little space for the eyeball externally. There is no external ear: the rudiments of it may indeed be faintly traced in some parts surrounding the *meatus externus*; but these are level with the surrounding skin. Below there is a hard low ridge, or rather thickening of the integument, and on the opposite side of the opening, a small raised tubercle; which may be considered as vestiges of the *tragus* and *antitragus*; but beyond these obscure indications there is nothing conformable to the character of an auricle.

"The toes of the fore feet are five in number, and are armed with enormous claws or nails, of which the internal one rises so high on the foot that its extremity is parallel with the origin of the second: this last and the fourth are equal; the length of their nails about 1¼ inch: the nail of the middle one is the longest of all, being about 1½ inch in length: the length of the outer one is nearly 1 inch. The superior aspect of the nail presents a surface of some thickness, rounded off at the edges; the under surface is concave, and the edge reduced to a mere line, except towards the point where the *laminæ* separate. The lateral surfaces of these nails are perfectly flat, so as to adapt them for accurate apposition to each other; and the toes being also short and flattened at their sides, it is to be concluded that the whole are closely approximated when the animal works in the ground, and that the foot is thus formed into a broad and powerful spathe.

"The character of the hind foot is essentially different: the toes are less developed, and the nails very short, and comparatively feeble. On the under surface the *laminæ* of the nails are separated to such an extent, that a deep oval *fossa* is formed between them. The plant of this foot protrudes so much that it is almost globular, in in consequence of which the short nails do not reach near the ground.

"The dental formulary is that of *Ratelus Capensis*. The teeth are fewer than in any other genus of the same tribe, as might be expected from the abruptness of the head anterior to the eyes, and the shortness of the mouth. The four middle incisors of the lower jaw are the smallest and most feeble: the two external ones of this range and the four middle ones of the upper jaw are somewhat larger and stronger. In this last the two outer incisors differ essentially from all the others, and partake of the character of canines. They are at least three times as large as the adjoining ones, strong, round, and curved inwards. The true canines are powerful teeth: those of the lower jaw, when the mouth is shut, are imbedded in a space between the upper external incisor and canine; the lower ones approximate closely to the external incisors. The front molar of the lower jaw is very small; the others gradually increase in size to the last, which is long, has two points, and a tuberculated surface behind. The great carnivorous tooth of the upper jaw has a tubercle or heel projecting inwards: the breadth of the posterior tooth of this jaw exceeds its length; so that in these characters it approaches the *Mustelidæ*.

"The colour of the animal is black with the exception of the back and upper parts of the head and neck, although a few black hairs thinly scattered along the middle of the back give a faint gray tint to the super-vertebral region, which, however, is soon lost in the white of either side. White also prevails along the dorsal aspect of the tail to within an inch of its termination, where it is lost in the black of the point. The margin of the white colour forms a concave line across the face, whence, descending along the side of the neck, ribs, flanks, and rump, it meets the line of the opposite side on the tail. The remaining parts, including the extremities, are, as before stated, more or less black.

"As the animal approaches the *Ursine* tribe in its form and plantigrade movement and the *Weasels* in its dentition, so with respect to its integuments it bears some analogy to the *Porcine Pachydermata.* The skin is tough, thick, and hard; the hairs are long, loose, coarse, and scanty, without vestige of the finer wool which immediately envelopes the skin of so many other animals. They are, however, much thicker on the upper than on the lower surface both of the body and limbs. On the posterior parts of the thighs they are so long as almost to form tufts; on the front of the fore legs they are also very long, and their course is here directly across the limb. On the sides of the neck the lay of the black hairs is precisely vertical, thus meeting the white ones, whose course is longitudinal, exactly at right angles. Round the opening of the ears there is a peculiar circular ring of hairs, about half an inch in breadth, which bears a rude similitude to the feathered circles surrounding the eyes of the nocturnal birds of prey. The face and jaws are nearly naked, scarcely any traces of hair being observable in these parts: the whole ventral aspect is also remarkably destitute of this covering. A few long black hairs are here and there met with on the chest, belly, and under surface of the extremities, but not in sufficient quantity to conceal the skin. There is also a line along the inferior surface of the tail entirely denuded of hair. The integuments round the *anus* are naked, and dilated into a kind of circular bag or pouch, though not to a considerable extent. The specimen from which this description is taken is a male.

"It is impossible to examine this animal, even in the most cursory manner, without coming to the conclusion that it is wonderfully adapted for making its way beneath the surface of the earth. The powerful fore leg, armed with enormous claws; the cuneiform head; the face deprived of hair; the minute and sunken eye; the entire absence of external ear; the strong and muscular neck and shoulder; the comparative diminution of the posterior extremities, whereby the bulk of the hinder parts is lessened; the naked *abdomen*;—all unite to characterize it preeminently as a digger. And in fact, among the population of its native regions, it is said that it seeks its choicest food in the cemeteries, and such is its dexterity in tearing open the graves of the dead, that no tomb is sacred from its attacks. The latter part of this account is probably in some degree overstated; but it has, at all events, in those parts obtained the appellation of the *Gravedigger.* The generic term of Storr, *Mellivora,* although it may suit the African species, is consequently peculiarly inappropriate in reference to this.

"It is a native of the upper provinces of Bengal, where, however, it is said to be rare. The present specimen, which is in excellent condition, was brought from thence by Dr. Sandham, surgeon of the 11th Light Dragoons, by whom it was presented to the Museum of the Army Medical Department. It is brought under the notice of this Society with the sanction of the Director General, Sir James McGrigor, Bart.

"This animal has been almost entirely neglected by systematic writers. It was alluded to by Pennant, but in so short, vague, and unsatisfactory a manner, that it is impossible to form any distinct notion of it. Shaw followed and copied the few words of Pennant which relate to it, and termed it *Ursus Indicus*. Lastly, the late General Hardwicke, whose talents and perseverance made him familiar with the natural history of Northern India, published some account of it in the 11th volume of the 'Linnean Transactions'. But it does not appear that he considered it as different from the *Rat. Capensis*, or was sufficiently aware of its peculiarities to enable him to erect it into a distinct species. A specimen formerly living in the collection of this Society was understood to have been brought from Madras.

"In the synopsis of *Mammalia*, in Griffith's translation of the 'Animal Kingdom', there is merely a note stating that the *Ursus Indicus* of Shaw is probably a variety of the *Ratel*. The French authors have entirely neglected it; neither the Baron nor M. F. Cuvier makes any mention of it. M. Lesson, still later, asserts that there is but one species in this genus; 'On n'en connaît qu'une seule espèce,—Ratel du Cap.'"—E. B.

Mr. Burton subsequently exhibited a specimen of an *Agriopus*, Cuv., which he regarded as hitherto undescribed. He characterized it as the

Agriopus unicolor. *Agr. brunneo-fulvus; dentibus setaceis maxillaribus; radiis mollibus pinnæ dorsalis quatuordecim, analis decem.*

"This *fish* bears a general resemblance to *Agr. torvus*, Cuv. & Val., the type of the genus. Its length is nearly similar, but the body is more slender and compressed, particularly towards the middle. The lower outline is sufficiently regular. The dorsal line from the eighth to the fourteenth spinous ray is somewhat concave, if, however, this effect be not produced by imperfect stuffing. The eyes protrude less than in *Agr. torvus*. The profile furnishes one of the most marked distinctions between the two species: that part between the eyes, instead of being vertical, slopes considerably; and the line of the snout, in place of descending in an angle of about forty-five degrees, is very nearly horizontal, or in a line with the body. The mouth is somewhat deeper.

"The next remarkable variation is in the teeth. The observation which Cuvier and M. Valenciennes have applied to those of *Agr. torvus*—'c'est à peine si l'on sent aux mâchoires quelques petits dents en velours'—is by no means applicable here. On the contrary, they are very conspicuous, rather 'en carde' than 'en velours', and are irregularly crowded on the maxillaries. Those towards the angle of the mouth are somewhat longer. The lines of ossific granulations, which, passing forwards from the superciliary ridges, unite in an angle on the forehead, are much more distinct: the appearance of those clustered on the posterior suborbitary and temporal bones is much the same in both species. The upper division of the border of the *operculum* approaches nearer to a semicircular form.

"The attachment of the pectorals and ventrals, as well as their general form and number of rays, is also alike. The dorsal presents some variations; the height of the first spine being only two fifths of that of the second, the latter and the fourth equal, and the third somewhat the longest of all. The emargination in the membrane between the second, third, fourth, and fifth spinous rays is obviously deeper. The number of soft rays exceeds that of *Agr. torvus* by one, being fourteen in number. The anal has also one additional ray.

D. 21 + 14; A. 1 + 10; P. 1 + 8; &c.

The caudal has nothing worthy of note, unless its termination is more lunated; but this distinction must be received with caution, as the injury commonly sustained in this part by dried specimens renders its character equivocal.

"The skin is smooth, equally free from scales, warts, tubercles, or protuberances of any kind, with the exception of the granulations on the head before mentioned. It is of a yellowish brown colour throughout, darker on the upper part of the head, and above the lateral line; lighter below, the lightest part being immediately posterior to the *operculum*. This description is taken from the dried specimen; what variations occur in the fresh subject I have no means of ascertaining. Towards the superior edge of the dorsal, and over the ventrals and caudal, the colour becomes yet darker: the pectorals incline to blackish. The black bars and blotches which prevail throughout the dark ground colour of *Agr. torvus* are entirely absent in this species. The lateral line is nearly straight, marked as it passes along the anterior part of the body by distant and obscure tubercles, all traces of which disappear at the commencement of the soft dorsal. These are the principal distinctions between this fish and *Agr. torvus*, with which it has probably hitherto been confounded.

"A remark of Cuvier and M. Valenciennes in the 'Histoire Naturelle des Poissons,' supposes the existence of other species, although the little there said is not applicable to this: 'Parmi nos individus, il s'en trouve un dont la peau est toute brune,' (so far only it accords with our description) 'mais relevée partout en petites bosselures arrondies, comme des verrues peu saillantes. Nous ne savons s'il appartient à une espèce différente, ou si ce n'est qu'une variété.' It may not unreasonably be assumed from the above description that this is a distinct species, under which impression it has been brought under the notice of this Society.

"It is an inhabitant of the Cape seas, from whence the present specimen, which forms part of the collection of the Army Medical Department at Chatham, was brought."—E. B.

Mr. Gray exhibited various species of the Linnean genus *Venus*, in illustration of the subdivisions into other generic groups which appeared to him to be, in the present state of the science, valid. He pointed out the characters of these several genera; referred to the types of each; and noticed many hitherto undescribed species contained either in his own collection or in that of the British Museum.

Mr. Bennett called the attention of the Society to a *Paradoxure* now living at the Gardens, which he regarded as previously undescribed. He characterized it as the

PARADOXURUS GRAYI. *Par. vellere denso, subæquali; olivaceo-fulvescens cinereo tinctus, subtùs pallidior; facie, auriculis, pedibusque nigris, illius vittâ nasali, fasciâ abbreviatâ suboculari, fronteque cinereis.*

Long. corporis cum capite, circiter 20 unc.; *caudæ* paullo major.

Hab. in Indiâ.

The fur of the animal, unlike that of *Par. Typus*, F. Cuv., and some other closely related species, is nearly of equal length, and is dense and in some degree woolly. Its colour above is a light fulvous brown, showing in certain lights a strong cinereous tinge, owing to the black tips of many of the hairs. Beneath it is lighter, and has a more cinereous tinge. The limbs are ash-coloured and deeper in intensity towards the feet, which are black. The tail is throughout of the same colour with the body. The ears are rounded, covered with hairs, and nearly black. The face is black, with the exception of the forehead, of a longitudinal dash down the middle of the nose, and of a blotch-like short oblique band under each eye; these markings being grey. There are no traces of longitudinal bands or spots on the body.

The separate hairs are dusky at the base and pale yellowish in the middle: they are tipped with black.

The tail is constantly twisted in the manner in which it is occasionally borne by *Par. Typus*, and cannot be rendered straight.

As the specimen was purchased of a dealer, the precise part of India in which it was captured cannot be ascertained.

August 25, 1835.

William Yarrell, Esq., in the Chair.

A letter was read, addressed to the Secretary by Captain Manby, R.N., dated Yarmouth, Aug. 22, 1835, and announcing the stranding of an enormous whale, near Southwold in Suffolk, on the 19th of August. Captain Manby states that it is of the species denominated by Linnæus, *Balæna Physalus.*

Drawings were exhibited of three *Fishes* captured at Port Praya, by Capt. P. P. King, R.N., Corr. Memb. Z. S. They were communicated by Mr. Broderip. They comprised representations of *Serranus tæniops*, Cuv. & Val.; *Sargus fasciatus*, Bor.; and an *Acanthurus*, apparently hitherto undescribed, the

Acanthurus Kingii. *Ac. purpureo-virescens, suprà lineis azureis undulatis interruptis numerosis longitudinaliter notatus; operculorum margine, pinnæ pectoralis maculâ, dorsalis basi, maculâque ovali spinam caudalem cingente rufescenti-flavis: pinnâ caudali lunatâ.*

D. 10 + 27. A. 3 + 25. P. 17. V. 1 + 5. C. 16.

Long. tot. $12\frac{7}{8}$ unc., alt. corporis, $4\frac{7}{8}$; long. *radiorum pinnæ dorsalis*, $1\frac{1}{8}$; lat. inter oculos, 1, ad pinnas pectorales, $1\frac{7}{8}$.

Besides the markings enumerated, there is a blue line at the lower part of the soft portion of the dorsal fin, separating it from the reddish yellow streak of its base. The branchial rays are reddish yellow.

The teeth are eighteen above and sixteen below: they are crenated and closely set. The scales are small, ovate, square at the outer margin, and minutely serrated.

The following Notes, by Mr. Owen, on the anatomy of the *Kinkajou, Cercoleptes caudivolvulus*, Ill., were read.

"The anatomy of an animal which is the sole representative of its genus, and which, in its external form and habits, manifests a relationship with genera belonging to two different orders of its class, must always be a desirable addition to zoological science. The death of the *Kinkajou*, which has been for the last two or three years in the Menagerie, has afforded the opportunity of determining the natural affinities of a somewhat anomalous form, and of thus compensating in some degree the loss of a living specimen, by the additional facts contributed in consequence to the science which it is our object to advance.

"It is not in my province to enter upon an external description of the *Kinkajou*, nor is such an account now required, since it has already been given, with more or less of detail, by the best systematic zoologists of the last half century. Its interest, as an osculant form, may be gathered by a simple reference to the modes in which it has been considered and classified by different authors, and to the synonyms indicative of the different degrees of importance attributed by them to its outward peculiarities. Classed among the *Viverridæ* by Shaw, under the name of the *prehensile Weasel*, and raised to the *Quadrumana* by Pennant, as the *yellow Macauco*, it holds a somewhat intermediate station in the system of Cuvier, who places it in the *Plantigrade* family of *Carnivora*, under the generic name *Cercoleptes*, applied to it by Illiger.

"In the following description of the anatomy of the *Cercoleptes*, I shall therefore consider it with reference more especially to the *Lemures* and the *Plantigrade Carnivora*.

"The specimen measured in length, from the end of the nose to the root of the tail, 1 foot 4 inches; and the length of the tail was 1 foot 5 inches.

"There were no clavicles, not even in a rudimentary state. The clavicular portion of the *sterno-mastoideus* arose from the cartilage of the first rib, and the corresponding portion of the *deltoid* from the transverse processes of the lower cervical *vertebra*.

"The abdominal *viscera* were protected by a large *omentum* streaked with fat. The *œsophagus* was continued about an inch into the *abdomen*, and entered the stomach about an inch from the left extremity. The pyloric extremity of the stomach was bent upwards abruptly, and suddenly became narrow.

"The *duodenum* made a large semicircular sweep downwards, backwards, and to the left, being loosely connected by a wide duplicature of *peritoneum* for the greater part of its course; it was also connected with the *colon* by a fold of *peritoneum* continued from it. The remainder of the intestinal canal was disposed in rather large folds, connected to a mesentery about 2 inches broad, in which the mesenteric vessels formed only a single series of arches. The diameter of the small intestine was about half an inch, becoming somewhat less towards the *colon*. There was a slight constriction indicating exteriorly the commencement of the large intestine, and better marked within by a sudden thickening of the muscular coat, and the commencement of a few narrow longitudinal folds of the mucous membrane, but there was no *cæcum*.

"The whole length of the intestinal canal was 6 feet 6 inches; the length of the large intestine was only 5 inches. At its termination it became very muscular, and the lining membrane was thrown into irregularly transverse *rugæ*. In the rest of the intestinal canal, with the exception of the longitudinal folds above mentioned, the mucous membrane was smooth and uniform.

" The liver was composed of three principal divisions, of which the left had a small *appendix* at its under surface. The middle or cystic division was deeply cleft into three lobes, the round ligament passing into the left notch, and the gall-bladder being lodged in the right, with its *fundus* on a level with the upper convex surface of the gland. The right division of the liver was also cleft into three lobes, which were again further subdivided by shallower fissures, the smallest lobe occupying the usual place of the *lobulus Spigelii*, viz. the lesser curvature of the stomach.

" The gall-bladder had an entire investment of *peritoneum*, and two of the primordial *cæca* had been dilated and retained in their original simple condition to form this receptacle: one of them was, however, much less than the other, appearing as a small vesicle appended to the origin of the cystic duct. I have met with similar structures in other animals: in the *Hyrax Capensis* there were two accessory gall receptacles; and in a preparation in the Hunterian collection, three hepatic *cæca* have been almost equally developed to form the biliary reservoir (this is from some small quadruped, species unknown, No. 820, Gallery Catalogue). I dwell more particularly on this circumstance, because it is an anomaly which has not, so far as I know, been described, and because it throws some light on that part of the structure of the liver which is generally allowed to be still left in the most uncertain state, viz. the ultimate disposition of the biliary ducts. It obviously accords best with the opinion of Muller, that the *tubuli biliarii* terminate in, or rather commence from, blind extremities.

" The *pancreas* consisted of a transverse and circular portion, the latter following the curve of the *duodenum*; the duct terminated, with the *ductus choledochus*, 2 inches from the *pylorus*.

" The spleen occupied the usual situation; was 4 inches long, 1¼ inch broad, and ½ an inch thick; its weight 13½ drachms; it was of the usual elongated trihedral shape.

" The kidneys were situated high in the loins, the right higher than the left, of a somewhat elongated form, with a smooth simple exterior, neither notched nor painted with arborescent veins, as in the typical *Carnivora*. The *tubuli uriniferi* terminated on a simple elongated *mamilla*, formed by the union of five lateral processes. The ureters entered, as usual, behind the neck of the bladder.

" The supra-renal glands were very small, reddish coloured, and healthy, although imbedded in a dense strumous mass which occupied the interspace of the kidneys.

" The ovaries were a little larger than peas, with a smooth exterior, enveloped in a loose serous capsule having only a small opening turned towards the horn of the *uterus*, and in which the head of a probe could be with difficulty admitted. They were suspended by a duplicature of *peritoneum* continued from the lower end of each kidney.

" The length of the *corpus uteri* was 1 inch; of each *cornu* 2 inches; of the true *vagina* ¼ of an inch; of the urethro-sexual canal 1 inch. A well-marked transverse fold divides this from the *vagina*. There were no anal scent-bags, but merely superficial follicles. In this respect *Cercoleptes* has a nearer affinity to *Ursus*, in which the anal bags are very small and shallow, than to the *Weasel* tribe, in which they are largely developed.

"The tongue was long, smooth, flat, and slightly emarginate at the tip. It had seven fossulate *papillæ*; the three nearest to the *epiglottis*, and forming the *apex* of the triangle, were the smallest. There was a long and large elastic *lytta*, ligamentous anteriorly, cellular posteriorly, surrounded by a muscular sheath of circular fibres.

"The tonsils were large and oblong. There was no *uvula*. The *epiglottis* was well developed, with a pointed *apex*. There were two narrow, shallow slits in place of laryngeal *sacculi*. The thyroid glands were separate, oblong, pointed at their lower extremities. There were more than twenty-five tracheal rings, which were incomplete behind.

"The brain of the *Kinkajou* is characterized by convolutions disposed as in the *Carnivora* generally; but the anterior transverse anfractuosity (marked No. 1. in Plate XX. of the 'Zoological Society's Transactions') runs more obliquely from within, outwards and forwards, and there is a greater proportion of brain anterior to it. The general form of the brain is longer and narrower than in the *Cat*. The *cerebellum* is separated from the *cerebrum* by a strong bony *tentorium*.

"The morbid appearances in the parts examined by me were small firm tubercles studding the liver, spleen, and kidneys; a large tuberculous mass between the kidneys; and a similar mass occupying the place of the mesenteric glands: both these masses were of scirrhous hardness, and of an irregular fibrous structure in the middle.

"In the note-book of our medical superintendent, Mr. Youatt, is the following record of the illness of the *Kinkajou*:

"'May 17th. Has not been well for some days; dull, and off its food. A little castor-oil operated well.

"'May 23rd. Dismissed well.

"'May 26th. Again off its food.

"'June 3rd. No symptom of serious illness.

"'June 7th. Spirits and appetite gone; sad heaving at the flanks. There is deeply seated organic mischief.

"'June 10th. Sinking.

"'June 15th. Died.'

"In his description of the morbid appearances, Mr. Youatt observes: 'When I attempted to cut through the diaphragm, in order to bring the lungs into view, I met with a hardness which I could with difficulty cut, and which creaked under the knife. When I got the contents of the *thorax* fairly out, I found adhesions under the diaphragm, but not a vestige either of *pericardium* or *mediastinum*; in lieu of them was a hardened, almost cartilaginous mass, presenting a convex surface superiorly, adapting itself to the form of the *thorax*, with a hollow formed in it, which contained the heart; and a prolongation on either side becoming thinner and thinner, until at the base was some vestige of membrane. The heart was contained in this cavity, but its vessels, both pulmonary and arterial, were apparently lengthened in order to reach the lungs. The lungs, pressed out of their place by this unnatural body, were diminished in size; the substance softened, half pultaceous, and, when squeezed, a purulent matter escaped. There were also numerous minute tubercles in the substance of the lungs. The animal had wasted almost to a skeleton.'

"We may therefore regard the complaint of the *Kinkajou* as being a long-continued strumous disease, in which some of the tuberculous deposits, instead of suppurating, had become partially organized, and the cellular *septa* rendered ligamentous.

"I conclude with a few observations on the affinities of the genus *Cercoleptes*, as they are elucidated by the preceding anatomical account.

"Besides the differences of outward form which the *Kinkajou* presents, as compared with the *Lemur*, in the shorter muzzle, the absence of the hinder thumb, and the presence of the prehensile tail, as well as in the quality of the hair and the dentition, the following important discrepancies occur in the internal anatomy of these two genera:

"In *Lemur* the intestinal canal is above six times the length of the animal's body; in the *Kinkajou* it is scarcely five. In *Lemur* it is also complicated by a *cæcum* of considerable length (measuring 15 inches in the *ruffed Lemur*, according to Mr. Martin, and which I found of 7½ inches in length in a *Lemur nigrifrons*). The *colon* also in the *Lemures*, is largely developed, (measuring upwards of 2 feet,) and is sacculated at its commencement. In the *Kinkajou* the large intestine, as in the *Raccoon*, is separated from the small by a slight internal circular projection of the mucous membrane, and measures only 6 inches in length. The stomach is also narrower at the pyloric end, and more bent upon itself than in *Lemur*.

"With respect to the digestive glands, there are no material differences. In both animals the liver is much subdivided, and the spleen is large. The kidneys are of a simple exterior in the *Kinkajou*, as in the *Raccoon*; not lobulated, as in the true *Ursi*: in this respect they resemble *Lemur*, but the form is so usual as not to authorize any deduction from it. In the generative organs, however, the *Cercoleptes* recedes from the *Quadrumanous* type further than the *Lemur*, in the extent to which the *uterus* is divided, and the consequently greater length of the *cornua*, and Fallopian tubes. Its nearer affinity to *Procyon* is also manifested in the disposition of the serous capsule about the *ovarium*, which leaves only a small orifice sufficient to admit the end of a probe; while, in *Lemur*, the *ovaria* are situated, like those of the *Quadrumana*, almost as in the human subject.

"In the osseous system it may be noticed that the *Cercoleptes* deviates from *Lemur*, and approximates *Procyon* and its congeners, in the absence of a clavicle and the presence of a bony *tentorium*.

"Thus all the more important parts of its anatomy show that its true position is in the *Carnivorous* order, and that it has the closest affinities with the *Ursiform Plantigrada*, making, however, the nearest approach to the *Quadrumanous* type in that family."

September 8, 1835.

Thomas Bell, Esq., in the Chair.

A living *Iacchus Monkey, Iacchus penicillatus*, Geoffr., was exhibited, which had recently been presented to the Society by Mrs. Moore of Rio de Janeiro. It was accompanied by a note, in which it was stated to have been obtained from the province of Bahia. "Like most monkeys, it will eat almost anything; but its chief and favourite food, in its wild state, is the *Banana*. It is a very delicate animal, and requires great warmth; and its very beautiful tail is, in this respect, eminently conducive to the comfort of the little creature, who, on all occasions when he requires warmth, rolls himself in the natural boa with which Providence has, in its wisdom, endowed him."

A note by Mr. William Smith, relative to the animal of the *Argonauta Argo*, Linn., and forwarded through Mr. Gray, was read. The most important statement adduced in it, with reference to the question of the parasitic nature of the *Cephalopod* so frequently found in the shell, is thus expressed: "It seems pretty evident that the animal found in the *Argonauta* is a parasite, because, in the Bay of Naples, where it is very abundant, the shell is but rarely found; whereas the *Octopus* itself is constantly to be met with, and indeed is daily to be seen in the common market as an article of food. To give some idea of its comparative scarcity in union with the shell, I shall merely mention that the usual price of the animal alone is about fourpence; while a specimen inhabiting the shell cannot be obtained under five shillings."

The following Notes, by Mr. Martin, of the dissection of a specimen of the *small Nocturnal Lemur, Microcebus murinus*, Geoffr., which lately died at the Society's Gardens, were read.

"The animal was a male, and doubtless adult, as was sufficiently indicated by the development of the sexual organs. Its length from the nose to the insertion of the tail was 5 inches; that of the tail, 6; the ears were large and naked; the head was rounded; the muzzle short and pointed; the eyes were not so large, in proportion, as in the *slender Loris, Loris gracilis*, Geoffr., but were evidently of a nocturnal character, being extremely resplendent, the glare of the *tapetum lucidum* showing very bright through the round dilated pupil.

"The *penis* was furnished with a slender bone extending from the *glans* for nearly half an inch. The *glans* was compressed, with a lunar-shaped elevation, inclosing a small depression on its anterior aspect. The *testes* were of considerable magnitude, and inclosed in a pendent *scrotum*, which was very conspicuous.

"On opening the *abdomen*, two portions of the liver covering the stomach, the spleen with its upper end also lying upon the stomach, the left kidney, a section of the great curvature of the stomach, and the convolutions of the intestines, were presented to view.

"The liver consisted of a middle and a left lobe having an anterior aspect, and of a right lobe having a dorsal aspect, covered entirely by the right portion of the middle lobe. This middle lobe had two fissures; that to the left for the insertion of the *ligamentum latum*; that to the right, admitting the gall-bladder to appear; the bladder itself being situated near the edge, on the under side of the lobe, in a continuation of the fissure. On opening the *abdomen*, the gall-bladder as well as the lobe in which it is situated, cannot immediately be seen, owing to its dorsal inclination. The gall-bladder was very small, being about 3 lines in length: what struck me, however, as being very remarkable, was that, contrary to the general rule, its neck, or *apex*, was on the edge of the liver, its *fundus* being inwards; so that the duct made an acute turn at its commencement, and then proceeded along the body of the bladder; leaving this, it continued for half an inch, and then received two or three auxiliary hepatic ducts; and after a further course of the third of an inch, it entered the *duodenum* little more than a quarter of an inch below the *pylorus*.

"The spleen was long and slender, measuring 1 inch by a quarter: it was attached pretty closely to the stomach.

"Of the intestinal canal the *duodenum* was the largest in circumference; it gradually diminished to the average measure, which was rather more than half an inch, that of the large intestines, if we may so call them, being scarcely so much. The length of the small intestines was 1 foot; that of the large, 8 inches. The stomach was somewhat oval, and the œsophageal and pyloric orifices were distant only 3 lines; the measurement of the greater curvature was 2¾ inches; the circumference, when moderately distended, 2¼. The *cæcum*, somewhat enlarged at its base, was about 1¾ inch in length, and terminated in a blunt *apex*.

The kidneys were compressed in form, and half an inch in length; the *tubuli* converged in one large distinct conical *papilla*. The supra-renal glands were closely attached to their upper and inner part, and were of the size of small peas.

"The lungs consisted of two lobes on the left, and three on the right side. The heart was pointed; its length being half an inch.

"The tongue was pointed, and 1 inch in length: its surface was velvety, with soft, small, delicate *papillæ*.

"The thyroid glands were oval, and little larger than pin-heads.

"The submaxillary glands were large.

"The *œsophagus* was smooth on its internal surface.

"The *trachea* consisted of nineteen or twenty rings.

"The sexual organs were next examined. The length of the *penis* from the *pubes* was 1 inch; the *erectores* muscles were large and long; the *testes* were oval, and as large as sparrows' eggs, being ¾ of an inch in length, in breadth ½ an inch, in thickness 3 lines; the *epididymis*, 3 lines in length, was somewhat club-shaped; the *cremaster* muscle was very strong; the length of the cord to the abdominal ring was ¾ of an inch; the total length of the *vasa deferentia*, 1½ inch; they terminated internally at the root of the *vesiculæ seminales*, that is, between them and the bladder; the *vesiculæ seminales* were small and tubular, with a turn at the extremity; from their entrance to the bulb of the *urethra* ½ an inch.

" Being desirous to ascertain whether the arteries of the extremities manifested any approximation in their arrangement to what obtains in the *Loris gracilis*, Geoffr., and the *Sloth*, *Bradypus tridactylus*, Linn., I injected the subclavian and femoral with mercury. The distribution was found to be similar to that of other *Quadrumana*, and without the slightest approach to the plexiform condition which was observed in the *Loris*. The arterial trunks were in fact simple, giving off muscular branches in the usual manner, as they proceeded.

" The muscles of the limbs, and especially those of the thighs, were remarkably large and firm, conveying an idea of far greater strength than would be suspected in so small and delicate an animal."

September 22, 1835.

William Yarrell, Esq., in the Chair.

Some extracts were read from a Letter addressed to the Secretary by M. F. Cuvier, For. Memb. Z. S., and dated Paris, September 15, 1835. Among other zoological notices contained in it were some remarks on the dentary systems of the three approximating genera of *Herbivorous Rodentia*, *Ctenomys*, Blainv., *Octodon*, Benn., and *Pœphagomys*, F. Cuv. M. F. Cuvier states that the teeth of the former are destitute of true roots.

A Letter was read, addressed to the Secretary by J. B. Harvey, Esq., Corr. Memb. Z. S., and dated Teignmouth, September 9, 1835. It accompanied some dried specimens of the animal of *Serpula tubularia* of Dr. Turton, which were forwarded by the writer with the view of demonstrating that the *Patella tricornis*, Turt., is in reality an appendage to that animal, serving as an *operculum* to its shelly tube—a fact which, subsequently to his description of the supposed new species of *Patella*, Dr. Turton appears himself to have suspected. The appendage described as the *Pat. tricornis* is in reality the covering of the dilated extremity of the single developed *tentaculum* in the *Serpulidous* animal forming the shell characterized by Dr. Turton as the *Serp. tubularia* : a similar covering is met with in the animals of all the species of *Vermilia*, Lam., and *Galeolaria*, Ej.; but not in those of the genus *Serpula* as restricted by Lamarck.

Mr. Harvey states that "Two days ago an industrious young naturalist, Mr. H. Glossop, of Isleworth, who has accompanied me on many dredging excursions, noticed an unusual, as he thought, horny substance upon the worm of a *Serpula tubularia*, which was adhering to a shell in salt water, and on examination it proved to be the *Patella tricornis* of Dr. Turton. We have since pulled out and examined above a hundred of these *Serpulæ*, all living specimens, and have found an *operculum* upon each of them. I am going to sea again on Saturday, and in a few days it is my intention to send you several living specimens, that you may satisfy yourself and the Society on this subject: I will forward them by the mail, with a bottle of sea-water in the basket, that you may preserve them alive for a day or two."

Mr. Bennett called the attention of the Meeting to a specimen of a *Crocodile* which he had regarded, while it was living in the Society's Gardens, as referrible, on account of the length of its head and the extent of the shielding at the back of its neck, to the *Crocodilus* *cataphractus*, Cuv. A more close examination of it, however, subsequently to its death, had shown him that its head was still more prolonged than that part is described to be in *Croc. cataphractus*, its length being to its breadth as 3 to 1, instead of as 2¼ to 1 : it is also deficient of the second post-occipital series of four small plates noticed as occurring in *Croc. cataphractus*. On these accounts principally he stated that he considered it as representing a previously undescribed species, which he characterized as

CROCODILUS LEPTORHYNCHUS. *Croc. rostro elongato, capitis latitudine longitudinis partem tertiam æquante; scutis post-occipitalibus ovalibus parvis duobus, nuchalibus per paria quatuor cataphractis, cum dorsi seriebus continuis.*

Long. tot. 27 unc.; *cranii*, 4⅝; *cranii*, ad maxillarum commissuram, lat. 1⅞.

Hab. apud Fernando Po.

Dentes in maxillâ superiore quatuordecim, in inferiore quindecim.

Notwithstanding the approximation of this species to the *Gavials* by the elongation of its jaws and by the extent to which the back of the neck is protected by bony plates, it has all the essential generic characters by which the *Crocodiles* are distinguished. The two posterior pairs of nuchal plates are much smaller than the two pairs anterior to them.

The animal having been anatomically examined subsequently to its death, the following notes were prepared by Mr. Martin of his dissection of the *Crocodilus leptorhynchus*.

" The length from the *anus* to the nose was 1 foot 2 inches; from the *anus* to the tip of the tail, 1 foot 1 inch; that of the *ramus* of the lower jaw, 5¼ inches.

" The musk-gland described by Mr. Bell was very small; and the peculiar muscle embracing it and running to the *os hyoides* was so delicate and slender that it was only to be followed with extreme care : the gland contained a small portion of creamy matter scented very strongly of musk.

" The serous cavities (of which, in his account of the *Croc. acutus*, Mr. Owen gives a detail,) may be described as follows. A serous membrane constitutes a sort of *pericardium*, to which the heart is secured at its *apex* by the membrane reflected from its own surface: from this pericardiac membrane is reflected an expansion, forming a distinct serous cavity on the anterior surface of each lobe of the liver: the *pylorus* and gall-bladder are in a separate serous cavity: and so is the anterior part of the stomach, the membrane passing from the *parietes* of the *abdomen* on the left side, uniting with the under part of the stomach, and being reflected over its surface. Besides the cavities on the liver alluded to, there is another on the right lobe at its *dorsum*, very extensive, and formed by a process of the *pleura*: but the *pleura* is not continued to the left lobe. The intestines occupy their own serous cavity: but below the *pubes* a distinct serous cavity contains the anterior part of the *cloaca* or genito-urinary reservoir. The peritoneal or serous membrane does not invest the kidneys, but is reflected over their anterior (abdominal) surface.

"The peritoneal canals were very easily made out. They opened on each side of the base of the *penis*, by two orifices capable of admitting the point of a fine blow-pipe. In the *Croc. acutus* Mr. Owen found them to allow barely of the passage of an eye-probe; but in the present animal, small as it was, they were far larger; still it appeared to me that they could not serve the purpose suggested by M. Geoffroy St. Hilaire. Can they be intended to allow of the escape of any gaseous secretion, any aeriform fluid, which may fill the abdominal serous cavity, and be expelled under certain circumstances, as, for instance, when the animal seeks the deep bed of the lake or river?

"The stomach was globular and flattened, with a glistening tendinous patch on each side, as large as a shilling, or nearly so. The entrance of the *œsophagus* and the pyloric *appendix* were close together, the *appendix* being about as large as a good-sized horse-bean: from this the *duodenum*, emerging, formed a double fold; that is, a fold formed by two lengths of intestine put together, and bent upon themselves, embracing within the outer line, as in *Birds*, the *pancreas*, a long thin gland, one portion of which was continued a short distance along the free portion of the intestine, where it became more thick, and ended abruptly. Further to the right, but in close contact with this duodenal fold, lay the spleen, a grey flattened rounded cake; it was touched by the lower edge of the right lobe of the liver, and was totally surrounded by *peritoneum*, which attached it by a narrow riband or slip to the *duodenum*, below the entrance of the biliary ducts: along this riband ran a large vein, going from the spleen to the *vena porta:* a small artery was also visible. The gall-bladder, of an oval shape, and 1 inch long, entered the *duodenum* at the termination of the outer folded layer, just where it began to be free, by a duct half an inch in length. The pancreatic duct I could not succeed in tracing, but it certainly did not enter with the biliary. In the *Croc. acutus* it enters a quarter of an inch beyond that duct.

"It may be remarked that the stomach contained no pebbles or stones, but merely a little mucus. In a specimen of *Croc. acutus* subsequently examined the stomach was distended with undigested lumps of flesh, and a vast quantity of Indian corn, swallowed most probably in lieu of pebbles: the grains were hard, and quite unaltered.

"The liver consisted of two distinct masses or lobes, of a triangular figure; and it was between them, but on the edge of the right, that the gall-bladder was situated.

"The *duodenum* was rather larger in circumference than the rest of the small intestines, which were in a worm-like range of convolutions, on a process of *peritoneum* that expanded like a fan from the spine: at the root of this mesentery I found the gland described by Mr. Owen, but of moderate size, and dark coloured; its diameter about half an inch. The total length of the small intestines was 4 feet 8 inches. They entered the *rectum* (for to this were the large intestines reduced,) by a valvular or sphincter-like aperture, the *parietes* of which were firm, thick, and muscular. The *rectum* suddenly enlarged on the reception of the small intestines, the length of this *viscus* being barely 2 inches; its internal membrane was longitudinally plicated. The portion which I have denominated *rectum* entered into a large *cloaca*, or genito-urinary cavity, its entrance being surrounded by a large fleshy *sphincter*, similar to that around the entrance of the small intestine into the *rectum*.

"The *cloaca* was itself divided into two chambers, by a valvular fold: the upper division was large; the anal one small. The breadth of the *meso-rectum*, 1 inch. The *ureters* entered just above the valvular fold alluded to. The *urine* opake and white, as in *Birds*.

"The *penis* was small, being only half an inch in length; it lay curled up, and its *apex* was cleft horizontally, one point being elongated, and bending over the other, so as to produce a resemblance in miniature to the flower commonly known as the *Snap-dragon*,—*Antirrhinum majus*.

"The kidneys consisted of two oval bodies, with flattened surfaces, having their venous ramifications symmetrically disposed, running horizontally across from a median line, so that each kidney had no unapt resemblance to some of the fossil fern leaves: the ureters emerged from a cleft in the centre of the lower *apex* of each kidney, and were of considerable circumference; their length was 1 inch.

"At the upper *apex* of the kidneys, and partly upon them, lay the *testes*, two red elongated slender bodies, of a tolerably firm consistence. In length they were about 1 inch, and each extremity was pointed.

"Over the yellow wrinkled skin which covered the tongue or muscular expanse between the *rami* of the lower jaw, numerous small glandular orifices were thickly dispersed, whence exuded a viscid saliva or mucus. The *pharynx* was closed by the cartilaginous expansion of the *os hyoides* described by M. Geoffroy Saint Hilaire in the 2nd volume of the 'Annales du Muséum,' which, by its arrangement, forms a gular valve, its free edge pressing against a sort of *velum pendulum*, or semilunar fold of the palate, which advances anterior to the posterior *nares*. Considerably behind this gular valve is situated the *glottis*, the *rima* of which, like that of a *Bird*, is unfurnished with an *epiglottis*; unless, indeed, the gular valve be considered in this light, its use being to prevent the ingurgitation of water both into the tracheal tube and the *œsophagus*; so that the animal can breathe, provided the nostrils are just above the water, though the jaws be open beneath the surface. The *trachea* is a straight simple tube; it was found in this animal to consist of fifty rings before its bifurcation, its length being 3½ inches. A little below the bifurcation, on each side, was a small glandular body, similar to that seen in *Birds*, just where the *trachea* enters the *thorax*. The bifurcations were observed to run a considerable distance into the substance of the lungs before they blended into it.

"Though differing in a few minor points, the visceral anatomy of this species bore, on the whole, a close resemblance to that of the *Croc. acutus*, of which the details given by Mr. Owen are already published in the 'Proceedings of the Committee of Science and Correspondence' of this Society, Part I. pp. 139 and 169."

A specimen was exhibited of the *Stanley Crane*, *Anthropoides paradisæus*, Bechst.; and Mr. Yarrell called the attention of the Meeting to the conformation of its *trachea*, which corresponded perfectly with the one figured by him in the 'Linnean Transactions.' He remarked, that as the present *Bird* had lived for upwards of three years in the Society's Menagerie, it seemed probable, from this coincidence of form, that no increase in the extent of the fold of the *trachea* is occasioned by increasing age.

The reading was concluded of an anatomical description, by Mr. Reid, of the *Patagonian Penguin*, *Aptenodytes Patachonica*, Forst.

"The specimen, an adult male, whose dissection forms the subject of the following paper, was captured at East Falkland Isle, in latitude 51° 32′ south, by Lieutenant Liardet, R.N., and was brought to England in H.M.S. Snake, and presented by that gentleman to P. C. Blackett, Esq., by whose kind permission I was allowed to examine it in detail: the results of this dissection I now beg respectfully to lay before the Society. Owing, however, to the length of time which had elapsed subsequently to its capture, and to the manner of its preservation (in rum),—together with a wound on the inferior part of the neck, and others in the mouth, added to several bruises,—part of my description will not be so perfect as could be desired.

"The bones are very hard, compact, and heavy, having no apertures for the admission of air; but they contain, especially the bones of the extremities, a thin oily marrow. The *foramina* for the transmission of the blood-vessels of the bones are small. The *periosteum* is thick and fibrous.

"The *cranium* is short and broad, and is united into a single bone, with very little appearance of suture or harmony: superiorly it is flattened; posteriorly, towards the *occiput*, it is rounded; it declines obliquely forwards; and when it attains the front of the orbits it is suddenly truncated to meet the superior mandible.

"The orbits are large, and separated only by membrane. Above each orbit there is a *fossa*, which is deeper and broader behind than in front, and which ends suddenly at its union with the orbitar process of the temporal bone. External and inferior to the termination of the transverse ridge of the occipital bone there is a process. The temporal bone has two processes: the tympanic, situated immediately anterior to the last-named process; and the orbitar, situated immediately behind the posterior part of the orbit. The basilar process of the occipital bone is short, ending posteriorly in a single round, prominent condyle, which articulates with the *atlas*. The body of the sphenoid is lengthened, and its pterygoid processes form separate bones. The tympanic bones have the internal process much produced. The *jugum* is very long and thin, attached as usual to the tympanic and superior maxillary bones. The palatine bones are long and thin, meeting posteriorly the pterygoid, and anteriorly the superior maxillary bones.

"The upper jaw is immoveable: the superior mandible long, slender, and a little arched at the point. The apertures for the nostrils are long and narrow. The bones of the superior mandible are of the usual form. The superciliary bones are wanting. The lachrymal bones are small, and fixed to the *cranium*. The turbinated *laminæ* are small, soft, and cartilaginous.

"The lower jaw is long and slender, and composed of three pieces, viz., the body of the bone and its two articulating portions. The coronoid processes are very small. The condyloid process is not elevated above the body of the bone. There is a process produced posteriorly for the attachment of the pterygoid muscles.

"The *os hyoides* has the lateral *cornua* much lengthened, passing upwards posteriorly to the occipital bone, then curved forwards for a short distance upon the temporal bone.

"The vertebral column consists of

Cervical *vertebræ*	13
Dorsal ——	9
Sacral ——	12
Caudal ——	8
In all	42

"The *atlas* is of the usual shape. The *processus dentatus* of the second *vertebra* is flattened laterally; the posterior spinous process short, and the anterior long. The articulating processes are inferiorly produced, as are those of all the cervical *vertebræ*: in the lower of them the processes diverge less than in the upper ones. The posterior spinous process of the third, fourth, fifth, sixth, and thirteenth *vertebræ* is long: in the remainder this process is short. The transverse processes are short in all except the twelfth and thirteenth *vertebræ*, in which they more nearly correspond with the processes of the dorsal series. The articulation of the bodies of the *vertebræ* is effected as usual. The sixth *vertebra* has the transverse processes extended downwards as much as they may be without the free motion of the neck being impeded: in the seventh, eighth, ninth, tenth, eleventh, and twelfth these processes gradually shorten, and in the twelfth and third can hardly be said to be produced: they lengthen in the fourth and fifth, and in the sixth reach the maximum. In the sixth *vertebra* we notice the commencement of two processes proceeding from the superior part of the anterior face of the *vertebræ*, a little external to the median line, which give firm attachment to the muscles of the neck: in the succeeding *vertebræ* these processes are more fully developed till they reach the tenth, after which we observe no trace of them; but instead of them, in the eleventh, twelfth, and thirteenth we have a very prominent anterior spinous process: in the two last it is bifid. In the last (the thirteenth) the transverse processes are extended laterally, and are curved acutely backwards, leading immediately to the shape of the dorsal *vertebræ*.

"These are nine in number. The first has very extensive motion: in the second the motion is much diminished: and the diminution of motion is continued as far as the seventh *vertebra*, the last two having no motion whatsoever. The posterior spinous processes have less development than is usual in most *Birds*. The anterior ones are very little produced. The transverse processes do not overlap each other. The oblique processes strongly resemble those of the neck. In the first *vertebra* the anterior spinous process is most prominent, and in the second, third, fourth, fifth, and sixth the process is bifid and less prominent.

"The sacral region is composed of twelve bones, all anchylosed together, of which the upper four might almost be regarded as lumbar, for they are unconnected to the *ilia*, except by ligament. The *canalis vertebralis* is broadest in the tenth of these *vertebræ*.

"There are eight caudal *vertebræ*, each furnished with transverse and spinous processes, and also, on their anterior face, with two processes arising one on each side of the median line, measuring in length, on an average, 6 lines. The eighth, or last, is in length 2 inches, conical, with the base towards the body, and having the tip scabrous, for the insertion of muscle: on the superior part of the anterior face there is a groove extending about one third of its length. About half an inch from the tip there is a thickening of substance, giving the appearance of the tip having been originally separate. The *canalis vertebralis* extends a short way down the bone. The seventh *vertebra* is united to the eighth by anchylosis.

"The ribs are nine in number, and of the usual form: the two upper ones are not connected with the *sternum*. The oblique processes are situated halfway between their vertebral and sternal extremities. They commence cartilaginous at the inferior margin of each rib, and are about 5 lines broad at their origin: towards their termination they spread laterally to the width of 1 inch. As they approach the lower rib they get gradually thinner. In the first and last rib they are totally wanting. The last rib, at its centre, has a surface concave externally, produced by the action of the thigh. The sterno-costal bones are seven in number: the last one curved suddenly at its costal end.

"The body of the *sternum* is long. The keel is much developed at its top, and forms a very acute angle posteriorly, terminated by a small line. The space for the attachment of the middle pectoral muscle is considerably larger than that for the attachment of the great pectoral. On each side of the keel there is a large space, terminating inferiorly in one, owing to the shortness of the middle layer compared with the lateral ones. The keel terminates abruptly inferiorly. The ensiform process has a ridge in the middle, along which and the inferior edge of the keel a membrane was attached (which separated in maceration). The external layers of the bone are, as has been already incidentally noticed, much longer than the middle one: they curve inwards toward each other, and are tipped with cartilage. The sternal *fossa* is large and very distinct. The sternal *apophyses* are very large.

"The coracoid bones are long, strongly formed, and smooth anteriorly; the margin much produced at the superior internal edge, and the ends furnished with long hamuliform processes, extending upwards and downwards. The superior one is attached to the clavicle by the intervention of ligament. The upper part of the *os coracoides* is bent upon itself at an angle greater than a right angle. They are larger at their inferior ends, the inner ends being produced and curved forwards. The glenoid cavity of the bone is situated on the exterior posterior part, and is formed by this bone and the *scapula*, about three fifths of the cavity being formed by the *os coracoides*.

"Each clavicle is turned downwards, and is broader near the coracoid bone, and tapering to the front, where there is a protuberance formed by the junction of the clavicles: this protuberance does not touch the *sternum*. Posteriorly they give off a flat conical process, which goes down internally to the coracoid bone, and is united to the process situated on the posterior part of the *scapula*, immediately inferior to its head.

"The *scapula* is remarkably broad and thin: its neck and head rounded. There are three articulating processes in this bone: one with the *furculum*; another with the coracoid bone; and the third with the *humerus*.

"On comparing the *sternum* and adjacent bones with the *sterna* of some nearly allied *Birds*, we find less development of the keel in the *Loon*, and less development of the lateral wings in the *Auk*, and more in the *Spheniscus*. The differences will be best shown by the following tables:

	Colymbus Glacialis.		*Alca Torda.*		*Spheniscus demersa.*		*Aptenodytes Patachonica.*	
	inch.	lin.	inch.	lin.	inch.	lin.	inch.	lin.
Length of the body of the *sternum*	5	3	4	10	5	10	7	0
Length of the lateral wings..	3	9	4	0	6	5 n.	8	0
Length of its keel	5	0	5	4	6	5	8	0
Length of the ensiform process	1 n.	0	0	3	0	3	1	2 n.
Length of the sternal *apophysis*	0	3	0	2	0	9 n.	1	0
Half the breadth of the bone at its superior margin ..	1	6	0	10	1	7	2	4
Height of the keel at the superior part	1 n.	0	1	4 n.	1	8	1	9
Projection of the keel, superior to the body of the *sternum*	0	3	0	8	1	3	2	0
Length of the *os coracoides*..	2	0	1	8	3	3	5	10
Length of the *scapula*......	2	3	2	10	6	5	7	7
Breath of the *scapula* at its neck................	0	3	0	2	0	7 n.	0	8
Breadth near its inferior angle	0	3 n.	0	2	1	9 n.	2	1 n.

or, in integral parts, the length of the centre of the *sternum* being taken as unity:

	Colymbus.	*Alca.*	*Spheniscus.*	*Aptenodytes.*
Length of the middle of the *sternum*..............	1	1	1	1
Length of the lateral wings..	$\frac{13}{21}$	$\frac{24}{29}$	$1\frac{1}{10}$ n.	$1\frac{1}{7}$
Length of the keel	$\frac{20}{21}$	$1\frac{3}{29}$	$1\frac{1}{10}$ n.	$1\frac{1}{7}$
Length of the ensiform process	$\frac{4}{21}$ n.	$\frac{1}{23}$ n.	$\frac{3}{58}$ n.	$\frac{2}{12}$ n.
Length of the sternal *apophysis*	$\frac{1}{21}$	$\frac{1}{29}$	$\frac{1}{7}$	$\frac{1}{7}$
Breadth of the superior margin	$\frac{6}{21}$	$\frac{5}{29}$	$\frac{2}{7}$ n.	$\frac{4}{12}$
Height of the keel	$\frac{4}{21}$ n.	$\frac{8}{29}$	$\frac{2}{7}$	$\frac{3}{12}$
Projection of the keel above the body of the bone ..	$\frac{1}{21}$	$\frac{4}{29}$	$\frac{3}{14}$	$\frac{2}{7}$
Length of the *os coracoides*..	$\frac{8}{21}$	$\frac{10}{29}$	$\frac{4}{7}$ n.	$\frac{10}{12}$
Length of the *scapula*......	$\frac{9}{21}$	$\frac{17}{29}$	$1\frac{1}{10}$	$1\frac{1}{12}$ n.
Breadth at its neck........	$\frac{1}{21}$ n.	$\frac{1}{29}$	$\frac{1}{10}$ n.	$\frac{1}{12}$ n.
Breadth at its inferior angle..	$\frac{1}{21}$	$\frac{1}{29}$	$\frac{3}{7}$ n.	$\frac{2}{7}$ n.

"The *humerus* is much flattened. On its posterior aspect there is a large *foramen*, situated under, and occupying the whole of the internal part of its head, which is in form crescentic from before backwards: over the internal and posterior part of it a groove passes. The distal end of the bone has two tubercles for articulation. There are two prominent *trochleæ* on its posterior surface, on which work the two sesamoid bones of the elbow-joint. The form of the larger of these is flattened, and of the smaller trapezoid, with truncated edges.

"The *ulna* is very thin and flat, not quite so long as the *humerus*, rounded slightly at its upper extremity, and still less at its lower one. Its head has a cavity, which receives the posterior tubercle of the *humerus*. Immediately inferior to this is a prominence on the posterior margin, to which is attached the ligament of the two sesamoid bones. The superior ulno-radial joint admits of little motion, being composed of a convex and plane surface. Near the distal extremity of the bone there are several rough lines for the attachment of muscles. The distal articulating surfaces are three: one with the *radius* anteriorly; another with the first carpal bone inferiorly; and the third with the second carpal bone posteriorly and obliquely downwards.

"The *radius* much resembles the *ulna* in shape. At its head it has two articulations: one superiorly, with the anterior tubercle of the *humerus*; and the other posteriorly, for articulation with the *ulna*. There are likewise two articulations at its distal extremity: posteriorly one for the *ulna*; and inferiorly there is another with the first carpal bone. Near its neck is situated a process for the attachment of muscles. On its superior anterior part a groove runs obliquely, from before backwards, and from above downwards. At the distal extremity there is a similar one, but running in a contrary direction, i. e. from behind forwards.

"The first carpal bone has the form of a trapezium, with three articulating surfaces: a superior one for the *radius*; a posterior one for the *ulna*; and an inferior one for the *metacarpus*. The shape of the second carpal bone is triangular, with articulating processes, and a notch on its inferior edge: one anteriorly for the *ulna*; the other inferiorly for the *metacarpus*.

"The *metacarpus* is composed of a single bone, formed by the union of two. The anterior of the two metacarpal bones supports two *phalanges* of the first finger, and is twice the size of the posterior one, which supports the single *phalanx* of the second finger. The upper end is crescentic, articulated with the first carpal bone anteriorly, and with the second inferiorly. There is a *sulcus* between the ends of the two bones, at their inferior extremity.

"The first *phalanx* of the first finger is a long, broad, and flat bone, tapering gradually from above downwards, united to the *metacarpus* by a flat surface, and connected with the second *phalanx* by a similar articulation. The other *phalanx* is broad and flat, tapering from above downwards. By a similar articulation is attached to the posterior metacarpal bone a *phalanx*, which is flat, long, and tapering from above downwards, superiorly giving off a process which passes upwards for a short distance on the posterior part of the metacarpal bone.

"The bones of the *pelvis* are so much shortened behind that they throw the centre of gravity in a perpendicular line with the *vertebræ*. The length of the *ilia* behind the cotyloid cavity is one third of the length of the body in a *Gull* (*Larus*); one half in the *Loon*;

and not quite one fourth of the length of the trunk in the *Patagonian Penguin.* The sacro-sciatic notch is a complete *foramen.* The pubic bones are long and feeble; they are turned forwards and tipped with cartilage. The cotyloid cavity is a perfect *foramen,* with a large process at its postero-inferior part tipped with cartilage, and articulated with the *trochanter major.* The thyroid *foramen* is not complete, except by the intervention of a ligament which separates it from the *obturator foramen.* As there is no *iliacus internus,* the superior part of the *os ilium* extends upwards, and lies close to the ribs.

" The *os femoris* is formed as usual, the head being flattened anteriorly, the neck short and thick, the *trochanter major* smooth on its superior posterior surface, and articulated with the process on the *ilium.* Besides the posterior there is also an anterior *linea aspera.* There is a process external to the external condyle, having its inferior surface tipped with cartilage, which acts as a pulley. On its infero-external surface there is a sharp edge. The condyles are not much everted.

" The shape of the *patella* is peculiar. There are two articulating surfaces posteriorly: one which would form part of a large crescent, and which has a prominence for the condyles of the *femur* in its centre; the other, inferior, is likewise crescentic; it is very narrow, and articulated by ligaments to the tubercle of the *tibia.*

" The superior surface of the *femur* has a *crista* in its centre, of an ovoid form: the posterior edge truncated. The internal surface is perfectly flat: the oblique slightly marked with a ridge, and looks downwards. There is a groove on the centre of the anterior edge which also passes obliquely downwards on the external side: these two sides are truncated at their junction.

" The *tibia* is nearly twice the length of the *femur*: the tubercle is elevated above its head, and forms a broad short conical truncated process. On the anterior part of the head there is a large groove, deepest at the top, and passing obliquely downwards and inwards: the outer side is here smooth for articulation with the *fibula.* It has inferiorly two condyles, articulated with the *metatarsus,* having a *foramen* above and between them for the transmission of tendon, &c.

" The *fibula* is in the form of a lengthened cone, and is attached to the outer surface of the *tibia*: for about two thirds of its length it is anchylosed to that bone inferiorly. It has the usual quantity of surfaces for the attachment of muscles.

" There is no *tarsus.*

" The *metatarsus* has two articular depressions on its posterior surface for the reception of the condyles of the *tibia.* It represents three pullies for articulation with the *phalanges.* On the inner part of the superior face is situated the metatarsal bone of the first toe, connected by ligaments to the large bone. There is a *fossa* on the superior surface, between the first and second, and second and third bones of the *metatarsus*: this gradually decreases in size and increases in depth, till it perforates the bone, and joins the *fossæ* on its inferior surface, where, immediately anterior, internal, and inferiorly to the outer depression on its head, there is a large protuberance forming the inner boundary to a groove. The phalangeal end is formed as in most *Birds*. The first toe, which is the smallest in the foot, has three bones, all of which are flattened, and have simple articulations, the last one having a nail. The metatarsal bone is only connected to the others by muscle: the whole length of the toe is 1 inch: the second toe has three *phalanges*: the third has four: and there are five belonging to the fourth toe. All are formed as is usual in this class.

"The ligaments of the head and trunk are of the usual form.

"In addition to these a ligament arises from the sesamoid bones of the elbow-joint, which passes to the external or dorsal side of the *carpus*, where it is tied down; it again passes forwards, and is attached by separate slips to the joint and head of the first part of the *metacarpus* and to the first *phalanx* of the first finger; and is inserted into the second about 3 lines from its head.

"The ligaments of the hip-joint are as usual.

"Besides the usual ligaments of the knee-joint there is one which arises together with the crucial, and is attached to the *patella* halfway down the central line. The form of the semilunar cartilages is crescentic, with prolonged horns.

"The ankle-joint has semilunar cartilages of the usual form.

"There are superior and inferior annular ligaments belonging to the *metatarsus*.

"In no other instance is there any deviation from the usual form.

"There is a very large *bursa* situated within the knee-joint.

"The muscles were of a dark red colour, very tough, and having a great deal of cellular membrane amongst them. The *fasciæ* were very thick and strong. In no instance did I observe any tendency to ossification in the tendons. In the tendons of the *perforatus* of the first and second toes there was a sesamoid bone, scarcely equalling in size a mustard-seed.

"The *panniculus carnosus* is very thick and strong, and is divided into three pieces. The first division arises muscular from the lateral parts of the skin of the shoulder, back, and under the wing; from the *fascia* of the muscles of the back; tendinous along the superior edge of the *furculum*; tendinous from the *fascia* covering the muscles of the shoulder; muscular from the blubber over the shoulder-joint; and by a small head from the inferior part of the cervical *fascia*: it passes upwards, uniting anteriorly and posteriorly to its fellow, and is attached, muscular, into the superior transverse ridge of the occipital bone, and to the posterior third of the sides of the lower jaw. The second portion arises from the dorsal *fascia* by five irregular fleshy slips: it passes downwards, and is attached to the blubber covering the back and sides, sending forwards a membranous slip, which is attached to the skin of the *abdomen*. The last portion arises fleshy from the tubercle of the *tibia*, and from the peroneal *fascia*: and, covering the abdominal muscles, is attached very firmly to the skin of the *abdomen*, sending off two slips, which unite with their fellows over the central line.

" The *occipito-frontalis* is small, arising posteriorly from the *panniculus carnosus*, and inserted anteriorly into the frontal bone, just above its junction with the superior *maxilla*. The *orbicularis palpebrarum* arises from the anterior part of the orbit, immediately anterior to the situation of the lachrymal bones, and is inserted into the orbitar process of the temporal bone, from the inferior half of which a muscle arises, passing downwards under the eye, and attached to the inferior part of the optic *foramen*, sending off a slip, which is attached immediately anterior and internal to the orbitar process of the temporal bone. There is most motion in the inferior eyelid.

" Round the entrance of the external *meatus* of the ear there are some muscular fibres observable, but as the part was much bruised, I was unable to separate them: they seem to act as a sphincter.

" The *masseter*, *temporalis*, and *pterygoideus* arise as usual, as does also the zygomatic.

" On the fore part of the neck there are two muscles: one arising from the superior edge of the *furculum*, near its union with the *os coracoides*, and from the recurved portion of the coracoid bone, and inserted into the temporal *fascia*: the other arising tendinous from the superior internal part of the *furculum*, and attached to the outer and posterior part of the tympanic bone.

" The tongue has a *hyoglossus* and *lingualis*, as usual.

" The muscles of the *os hyoides* and lower jaw are as usual.

" There is only one pair of muscles of voice.

" The *recti postici* and *antici*, *obliqui capitis*, *splenii capitis et colli*, *complexi*, *intertransversales*, *interspinales*, *transversalis colli*, *spinales dorsi et colli*, *trapezius*, *cucullaris*, *rhomboideus*, *biventer cervicis*, *trachelo-mastoideus*, *longus colli*, and *scaleni* muscles are large and well defined, arising and attached in the same manner as in most short-necked *Birds*, but especially resembling the muscles of the neck of the *Loon*; as do also the abdominal muscles, and those for the motion of the dorsal *vertebræ*, ribs, and tail.

" The muscles connecting the *scapula* to the trunk resemble those of the *Loon*, but have broader attachments, in proportion as the *scapula* of the *Penguin* is broader than that of the *Bird* referred to.

" The principal differences are in the muscles of the wing and leg.

" The muscles of the wing I shall now describe. The *pectoralis major* arises from the superior part of the *crista* and the external part of the body of the *sternum*, from the *fascia* of the *pectoralis minor*, from the cartilages of the ribs, and from the anterior part of the coracoid bone; over the *crista* it unites with its fellow of the opposite side; it is inserted, muscular, into the anterior superior part of the *humerus*. The *pectoralis minor* arises from the lower part of the *crista* and the interior part of the body of the *sternum*, and from the inferior part of the *furculum* and coracoid bone; its tendon passes over the union of the three bones of the shoulder-joint, moving freely over them, and is inserted, tendinous, into the scabrous surface on the posterior part of the external side of the *humerus*, just below its head. The *coraco-brachialis* arises from the lateral angle of the *sternum* and base of the coracoid bone, and is inserted immediately posterior and a little superior to the *pectoralis minor*. The *subclavius* occupies the usual place, but is small. A muscle arises from the outer and upper fourth of the membrane between the *furculum* and *os coracoides*; it passes upwards, but internal to the capsular ligament of the joint; and is inserted, tendinous, immediately above the insertion of the *pectoralis minor*. Another muscle arises from the external inferior third of the *os coracoides*, from the angle and costal part of the *sternum*, and from the *fascia* of the *pectoralis major* for about the length of an inch; passing upwards it forms a round tendon about ¼ of an inch from the shoulder, which passes over the joint and under the *supra-spinatus*, and is inserted into the external edge of the *foramen* at the head of the *humerus*. The *supra-spinatus* is small, and arises fleshy from the superior edge of the *scapula*, near the glenoid cavity; it passes round and constricts the ligament of the joint, and is inserted, tendinous, into the *humerus*, immediately anterior to the muscle last named.

"I will here notice, before proceeding to the remaining muscles, a loop through which several of the muscles pass. It arises flat from the infero-anterior edge of the *scapula*, just below the glenoid cavity, and passing upwards and outwards for about an inch, is then doubled upon itself, and attached to the same part from whence it arose: there is no admixture of its fibres.

"A muscle arises from the *fascia* which covers the last rib and the outer edge of the external oblique, passes upwards and through the loop, and is inserted into the lower part of the external edge of the *foramen* situated at the posterior part of the head of the *humerus*. The *latissimus dorsi* arises from the last cervical and first five dorsal *vertebræ*, and forms a tendon, which passes through the loop and is inserted immediately below the preceding muscle. The *infra-spinatus* arises fleshy from the whole external surface of the *scapula* below the upper third, and is inserted into the large tubercle of the *humerus*. A muscle arises from that part of the inner edge of the *os coracoides* which is produced; it passes obliquely upwards and outwards behind the *os coracoides*, to which it is attached; and is inserted tendinous into the anterior tubercle of the *humerus*. The *deltoides* arises from the posterior part of the projecting edge of the *scapula*, and from the scapular process of the clavicle; passing over the shoulder-joint, it is inserted into the anterior part of the middle tubercle of the *humerus*. The *subscapularis* arises from the internal surface of the *scapula*; it passes upwards, and is inserted into the posterior part of the middle tubercle of the *humerus*. The *teres minor* arises from the whole width of the posterior surface between the glenoid cavity and the end of the upper third of the *scapula*; it passes in the groove, and is inserted into the inferior part of the large tubercle of the *humerus*. Of the *triceps extensor cubiti* the long head arises immediately above the origin of the *teres minor*, and passing down on the external side of the *humerus*, it is joined by the second head, arising from the internal part of the large *foramen cæcum* of the *humerus*; these two unite about the middle of the arm, and are joined by the third head, which arises from the two inferior thirds of the posterior edge of the *humerus* till within 8 lines of the joint: it is now attached to the sesamoid bones of the elbow-joint, and to the *fossa* on the inferior parts of the posterior surface of the *os humeri*.

" The *anconeus* arises from this muscle, and from the part of the bone below the origin of the third head, and is attached to the sesamoid bones anterior to the *triceps extensor cubiti*. Instead of a *biceps* and *brachialis internus*, there is a *triceps flexor cubiti*, the long head of which arises, tendinous, from the antero-interior part of the superior angle of the *furculum*, and, passing over the joint, is joined, at the union of the upper with the middle third of the *humerus*, by the fibres of the middle head, which arises fleshy from the *furculum* immediately behind the *foramen* formed by the union of the three bones of the shoulder passing on to join the long head; at the head of the *humerus* it is joined by the short head which arises from the anterior part of the *foramen cæcum*; when it reaches the superior part of the middle third of the *humerus*, it joins the other tendons, and then forms an *aponeurosis* over the elbow-joint, and is attached to the middle part of the *radius*. A muscle arises from the anterior superior edge immediately below the arterial groove on the lower part of the *humerus*; it passes directly downwards and is inserted into the radial extremity of the metacarpal bone and into the edge of the carpal ligament. The *flexor communis* arises from the internal side of the *humerus*, from the ligament of the elbow-joint, and from the superior part of the *radius* and *ulna*; it divides into two tendons, which go down in the interosseal space, passing under the *ligamentum carpi annulare posterius*, and are attached to the first and each succeeding *phalanx* of the two fingers about 5 lines below their articulations. The *extensor communis* has the same situation and number of attachments on the external or dorsal side of the *humerus*. There is a *pronator quadratus* arising as is usual in this class. There is also a muscle which arises from the anterior part of the *radius* at its distal extremity, and is inserted into the projection of bone formed by the *phalanx* of the second finger, and also, by a slip, into the internal part of the first *phalanx* of the first digit.

" The muscles serving for the motion of the inferior extremity may be described as follows.

" The *rectus* arises by a *fascia* from the spinous processes of the last three dorsal and two lumbar *vertebræ*, and muscular from the lower half of the external part of the *dorsum ilii* and sacro-iliac *symphysis*; and, passing over the neck of the thigh-bone, is inserted into the lower edge of the groove on the anterior part of the *patella*. The *tensor vaginæ femoris* arises by a *fascia* from the sacral *vertebræ*, passes over the cotyloid cavity and *trochanter major*, and turning to the anterior part of the thigh is joined by another head which arises immediately anterior to the cotyloid cavity; after this union they are inserted into the *fascia* of the thigh about halfway down. The *glutæus medius* at its origin occupies that part of the *dorsum* which extends between the origin of the *acetabulum* and the ridge situated in the centre, and passes downwards and is inserted into the *trochanter minor* and the ridge which joins it. The *glutæus minimus* arises from the whole of the *dorsum ilii* unoccupied by the other *glutæi* except its *crista*, and is inserted into the anterior part of the *trochanter major*. The *glutæus maximus* arises from the prominent ridge on the *os ilium* below the *acetabulum*; it passes on the posterior surface of the thigh-bone; and when it has passed below the head of the *tibia* it forms a round tendon and passes through a loop situated on the external posterior part of the *tibia*; continuing its course obliquely downwards, it is inserted into the scabrous ridge on the posterior surface of the *tibia* near its head. A muscle arises from the transverse processes of all the caudal *vertebræ* except the last, goes forwards, and is attached to the postero-internal edge of the *tibia* just below its head. Another muscle arises from the anterior part of the last caudal *vertebræ*, and is inserted into the external part of the *linea aspera* after its bifurcation. The *pyriformis* arises from the anterior oblique processes of the caudal *vertebræ*, from the tip of the *ischium*, and from the internal part of the *os pubis*; the fibres converge downwards, and are inserted into the intero-anterior ridge of the *tibia* just below the tubercle. The *semitendinosus* arises from the ridge immediately anterior to the *glutæus maximus*, and is inserted immediately inferior to the bifurcation of the *linea aspera* on its external division. The *gemini* arise from the *ischium* immediately posterior to its spine, and are inserted into the cavity posterior to the *trochanter major*. A muscle arises from the *ischium* anterior to the *gemini*, and is inserted into the intero-anterior ridge of the *tibia*, just below the *pyriformis*. Of the *triceps adductor femoris* the first head arises from the extero-inferior part of the *pubis*; the second head arises immediately above the first; and the third above the second, and from the interosseous ligament which unites the *pubis* and *ischium*: they join on the upper third of the thigh, and are attached to the *linea aspera* on its internal side and division. The *obturator internus* arises fleshy from the internal part of the *pubis*, from part of the *obturator foramen*, and from the *ischium*; it forms a tendon which passes through the thyroid *foramen*, is tied down to the joint, and is inserted into the anterior part of the great *trochanter*. A muscle arises from the outer edge of the cotyloid cavity, passing outwards and a little upwards, and is inserted behind the *trochanter major*. Another muscle arises from the anterior part of the *acetabulum*, passing directly outwards, and is strongly attached to the ligament of the joint; it is inserted into the thigh-bone just below its neck.

" A muscle arises from the interior and a small part of the anterior and posterior surfaces of the thigh-bone, from near its neck to the condyles, and forms a tendon which is inserted into the ridge at the anterior internal part of the *tibia* immediately below its head. The *cruralis* arises fleshy from all the superior and external parts of the bone not occupied by the former; one part is inserted into the whole of the superior surface of the *patella*, the remainder passes over the internal part of the *patella* and is attached to the internal side of the head of the *tibia*. A muscle arises by four heads: the first, tendinous, from the ridge behind the external condyle which formed the loop through which the *glutæus maximus* passed; the second, fleshy, from the internal side of the *triceps*; the third, from the inferior portion of the intero-anterior ridge of the *tibia*; the fourth, from the inferior internal edge of the *patella*; these two last join just below the origin of the third, and passing down tendinous are united to the two other tendons a little above the ancle-joint: it expands and flattens at the joint, and just below it divides into two tendons, the internal of which is inserted into the internal edge of the groove on the plantar surface of the metatarsal bone, while the external tendon is inserted into the external head of the same bone. Another muscle arises from the postero-inferior part of the cotyloid cavity, passes forwards on the exterior part of the thigh and over the groove on the *patella*, and is attached on the interior part of the head of the *tibia*. The tendon of the *flexor perforatus* is composed of four muscles, which unite just above the ancle-joint. The first arises by two heads, one from the outer surface of the external, and the other from the inner side of the internal condyle; about the end of the upper third of the *tibia* this forms a tendon, which passes down to the place of junction with the others: the second has also two heads, one from the posterior part of the head of the *fibula*, and the other immediately below the attachment of the *glutæus maximus*; the muscle forms its tendon just below the middle of the bone, and passes forwards and joins that of the first muscle: the third has one origin between the two condyles, and forms its tendon at the middle of the leg, passing on and joining the two former: the fourth muscle arises immediately above the third, and forms its tendon like the rest, joining them above the ancle: after the tendons are united they are distributed as usual. The *flexor perforans* consists of two heads; the first arises from the back part of both condyles; the second arises from the superior and posterior third of the *tibia*, *fibula*, and interosseous ligament: they unite about halfway down the bone and form a tendon, which passes in the groove of the plantar surface of the metatarsal bone, and is distributed in the usual manner. A muscle arises from the scabrous surface situated on the internal part of the posterior face of the *tibia* about halfway down that bone, and forms a tendon which is attached to the upper part of the internal edge of the groove in which runs the tendon of the *perforans*. Another muscle arises from the external condyle, from the *patella* on its anterior surface, and from the fibres of the *rectus femoris*; it covers the *tibia* and fills up the space between it and the *fibula*, and forms a tendon which passes through the *foramen* situated at the anterior surface of the *tibia* between its condyles, under the capsular ligament of the ancle-joint, and is attached to the prominence situated between the second and third portions of the metatarsal bone near its tibial extremity.

"A muscle arises from the anterior and external parts of the head of the *fibula*; it becomes tendinous about halfway down the leg, passes under the annular ligament, and is inserted into the external side of the metatarsal bone near its postero inferior angle: another slip goes under the foot and forms the plantar *fascia*. Another muscle arises from the anterior inferior surface of the *patella*, and from the whole of the *fossa* and its edges on the head of the *tibia*, passes downwards, and is tied down by the annular ligament; and has the same distribution as in the *Locn* and *Gull*, except that the tendon is more closely tied down, smaller, and not so round. Another muscle arises fleshy from the whole anterior part of the *fibula*, interosseous ligament, and part of the external side of the *tibia*; it forms its tendon near the ancle-joint, and is attached to the postero-external angle of the *metatarsus* on its plantar surface. There are also four muscles arising from the metatarsal bone, one on each side, and one in the *fossæ* between the three portions of the metatarsal bone: they all arise near the tibial end on its superior surface, and are attached to the *phalanges* of the first, second, and fourth fingers. The thumb has three muscles: an *extensor*, on its superior surface; a *flexor*, on its inferior; and an *abductor*, on its internal surface; all attached to the tibial end of the *metatarsus* as usual.

"The diaphragm consists of twelve narrow fleshy slips, which arise, six on each side, from the internal surface of the ribs: near their angle they pass upwards, and are inserted tendinous into the thin transparent membrane covering the lungs. The blood-vessels pass in front of it.

"The circulatory system corresponds exactly with that of the *Loon*, except in the origin and distribution of the arteries of the stomach. The cœliac artery comes off on a level with the fifth rib; it passes a little forwards, and divides into the *coronaria ventriculi*, the hepatic, and the splenic. The *coronaria ventriculi*, just after its origin, divides into the superior and inferior coronaries: the superior passes round the large curvature of the stomach, and near the *pylorus* gives off the superior pyloric and left hepatic; the inferior passes down the right side of the stomach, and disappears at the *pylorus*, being here minutely ramified upon it. The hepatic gives off the right gastro-epiploic, which goes on the inferior angle of the stomach, and the right gastric, which goes on the *pylorus* and superior part of the stomach, anastomosing with the superior pyloric and inferior coronary arteries. The splenic gives off a small artery distributed on the cardiac portion of the stomach, and some *vasa brevia*, which are distributed to the left portion of the stomach.

"Not wishing to mutilate the skeleton, I did not examine the brain; but from the number, size, and situation of the *foramina* in the base, and the whole contour of the *cranium*, the brain must be presumed to be very nearly similar in proportional quantity and structure to those of the *Loon* and *Gull*.

"The nerves are distributed as usual. The brachial plexus is composed of the last cervical and first two dorsal nerves, and of a filament from the last spinal nerve but one in the cervical region. The sciatic is composed of the five superior or anterior pairs of pelvic nerves.

"The nose is organised similarly as in others of this class. The cartilaginous *laminæ* of the turbinated bone are concentric, and thirteen in number.

"The eye has six muscles, which arise and are attached as usual. The lachrymal gland is placed at the postero-superior part of the orbit, and is large in proportion to the globe of the eye. It sends off several ducts; I think seven; but the part being much injured, I found it impossible to ascertain their precise number and origin: one, however, opened immediately under the anterior part of the *membrana nictitans*. Two other ducts also opened below this membrane, passing from the Harderian gland, which was situated at the inferior part of the orbit. The nasal gland occupied its usual situation, partly in the anterior and superior portion of the orbit, and partly in the *fossa* of the frontal bone: its duct passed forwards under the bridge of bone, and then bifurcated, one division of it ending on the cartilaginous *laminæ* of the *ossa turbinata*, and the other going forwards, and lying on the bone: I was not able to trace it further.

"The *membrana nictitans* is large and strong: it is moved by a *pyramidalis* and a *quadratus* muscle.

"The globe of the eye is large, as compared with the *cranium*. The sclerotic is less osseous than I have yet found it in any *Bird*. The optic nerve enters at the postero-inferior part of the sclerotic. The *cornea* is small, owing to the large space occupied by the sclerotic. Under the *cornea* lies the *membrana aquatica*, consisting of a thin membrane, adhering to the edge of the *iris*. This membrane was first observed, together with the *tunica cellularis*, by Mr. Blackett, in 1802, in the eye of the *Cat*, the preparation of which was sold in the first part of Mr. Brookes's Museum. The *tunica cellularis* in this animal is rather pulpy, but, on the application of *liquor potassæ*, it dissolved, and displayed a cellular structure. Mr. Blackett demonstrated this membrane to me in 1832, since which time I have observed it in all the eyes I have examined; but, owing to the difficulty in obtaining specimens, I have not been able to make sufficiently extensive researches to justify the demonstration of the membrane as one of the proper tunics of the eye. There appears to be a *marsupium nigrum*. The *retina* is very thick and strong.

" The absorbent system is more perfect than in most *Birds*. Of the thoracic ducts, the left is the largest. There are a femoral and two axillary glands; also an extra pair of bronchial glands more than in the *Loon* or *Gull*. The coccygeal glands are 2 inches 3 lines long, and 9 lines broad.

" There is a gular pouch, which measures in length 4 inches, and in breadth 8 lines.

" The tongue is set with cartilaginous *papillæ* directed backwards.

" There is only one pair of salivary glands; the submaxillary.

" The structure and proportion of the lungs are the same as in the *Water Birds* generally. The air-cells are few in number, and small, and are filled by openings from the lungs, or from one cell to another. They consist principally of the internal air-cells; one above the *furculum*; and the axillary, abdominal, and femoral rows.

" The liver, spleen, and *pancreas* are large.

" The *œsophagus* is straight, and 1 inch and 5 lines in width. It is infundibuliform, so that when it reaches the stomach it is 2 inches and 4 lines wide: the *infundibulum* contained the beaks of cuttle-fishes and gravel.

" The stomach is muscular, small, and glandular, and of the shape of an egg. The *duodenum* is broad at its origin, and at about 3½ inches from its commencement the biliary and pancreatic ducts enter. The gall-bladder is 6 inches long and 2 inches in circumference; it is attached to the under side of the liver, and, gradually diminishing in diameter, it passes over the stomach, and is inserted into the intestine, without the intervention of any duct.

" The *testes* were large, as were the supra-renal glands and kidneys. I did not observe any difference from the usual structure and proportions in any other parts.

" The small intestines measured 22 feet 6 inches in length, and were about the thickness of the little finger. There were attached to them two *cæca*, each measuring about 1 inch 3 lines in length, which were of the same diameter as the intestines. The great intestines were somewhat larger than the small. The measurements of the stomach and the intestines were as follows:

	Feet.	Inches.	Lines.
Length of the *œsophagus*	0	10	0
Breadth at the *pharynx*	0	1	6
———— *infundibulum*	0	2	4
Length of the *infundibulum*	0	10	0
Breadth at the junction of the *infundibulum* with the stomach	0	6	0
Length of the stomach	0	4	0
Width of ditto	0	2	6

	Feet.	Inches.	Lines.
Length of the *duodenum*	1	3	0
Circumference of ditto	0	4	0
Length of the small intestines, inclusive of the *duodenum*	22	6	0
Length of the *cæca*	0	1	3
Circumference of the *cæca* and the small intestines	0	2	6
Length of the large intestines	0	6	0
Circumference of ditto	0	2	9

"The total length of the individual examined, measured over the back, was 3 feet 2 inches and 6 lines; the length of the neck, 11 inches and 9 lines; that of the trunk, 1 foot 1 inch and 9 lines."

The reading of Mr. Reid's communication was illustrated by the exhibition of the skeleton of the specimen of the *Patagonian Penguin* described by him, and of preparations of many of the *viscera*, the whole forming part of the collection of Mr. Blackett.

October 13, 1835.

Richard Owen, Esq., in the Chair.

Mr. Bennett called the attention of the Meeting to a *Pteropine Bat* which had recently been obtained from the neighbourhood of the river Gambia, and which was exhibited. He directed especial notice to two large tufts of white hairs placed upon its shoulders and forming a very conspicuous feature in its appearance. These, he remarked, might probably cover cutaneous glands destined for the preparation of a secretion fitted to defend that part of the animal in its passage through the air, or perhaps to attract the opposite sex. It could scarcely be conceived that they have any influence in increasing the buoyancy of the animal; although the backward position of the wings might seem to render necessary such a supplemental aid: their position in advance of the ordinary alar membranes gives them, in fact, some resemblance to supplementary wings.

He stated that on account, chiefly, of the position of the wings so far backward as almost to seem to be placed behind the centre of gravity, he was disposed to consider that the *Bat* exhibited might be regarded as the type of a new genus, to which the name of *Epomophorus* might be given. But the genus would, he conceived, rest almost entirely on this single character, and he hesitated to propose it definitively until he had an opportunity of examining a specimen preserved in spirit, and consequently not liable to that distortion to which the individual skin exhibited might have been subjected. In one of the two other species of *Pteropi* previously obtained from the same country by Mr. Rendall, and brought under the notice of the Society on July 14 (page 100) by Mr. Ogilby, the same backward position of the wings exists. In dentary characters the new species agrees with those just referred to, the only exception being in the presence of a third abnormal incisor on the left of the upper jaw.

Regarding it as a form of some interest to zoologists, Mr. Bennett stated his intention to describe it more fully in a paper which he proposed to prepare on the subject. He characterized it as the

PTEROPUS EPOMOPHORUS. *Pter. pallidè brunneus, posticè pallidior; ventre albido; scopâ humerali albâ magnâ.*

Long. tot. 6¾ poll.; *capitis*, 2¼; expansio alarum, 12.

Hab. in regione Gambiensi.

Professor Agassiz, at the request of the Chairman, explained his views of the affinities and distribution of the *Fishes* of the family *Cyprinidæ*.

He commenced by remarking that among the genera referred by Cuvier to this family there were several, such as *Pœcilia, Lebias*, &c., which possessed maxillary teeth and a large number of branchiostegous rays. These genera, he conceived, ought to be excluded from the *Cyprinidæ*; and the family be considered as limited to fishes with mouths destitute of teeth, and having few branchiostegous rays.

To the family thus reduced the nearest affinities appeared to him to be the genera *Atherina* and *Mugil*. In internal organization the *Cyprinidæ* agree nearly with those genera; and this consideration, M. Agassiz conceives, is of much higher importance in the natural arrangement than the external character founded on the presence or absence of spinous rays in the dorsal and other fins. The affinity of the *Cyprinidæ* to the *Siluridæ* he regards as extremely doubtful: and although from the bearded *Carps* to the bearded *Siluri* there appears to be a natural transition by means of the bearded *Loaches*, it is important to distinguish that in these latter, as well as in the *Carps* and other *Cyprinidæ*, the beards, as they are called, are merely processes of the skin; while in the *Siluri*, the *cirri* of the angles of the mouth are actually prolongations of the maxillary bones, becoming gradually cartilaginous and tapering into thread-like extremities.

In the subdivision of the *Cyprinidæ*, M. Agassiz regards the form of the fins, and especially of the dorsal and anal, as furnishing indications of the highest value; and the form of the pharyngeal teeth as affording the characters next in importance. He first distinguishes the group comprising the genera *Anableps, Cobitis* and *Botia*, the latter established by Mr. Gray for the reception of those *Loaches* in which the suborbital bone is armed with a moveable spine. He then distinguishes another group comprising four genera: 1. *Cyprinus*, in which the pharyngeal teeth are large, and, when worn, resemble the molars of some *Rodent Mammalia*, such as the *Hare*; 2. *Barbus*, in which there are three rows of lengthened conical hooked teeth on each side of the *pharynx*; 3. *Gobio*, in which the pharyngeal teeth have the same form as those of the *Barbels*, but are more slender, and constitute only two rows; and 4. *Tinca*, the pharyngeal teeth of which are club-shaped, rounded at the end, and placed in a single row. In the genus *Leuciscus*, which M. Agassiz limits to *Leuc. Alburnus* and three allied species, the mouth is cleft obliquely, and the teeth, consisting of elongated cones, are disposed in four rows. From these the *Cyprinus Nasus* is to be generically distinguished as possessing six rows of pharyngeal teeth: its mouth is transverse and inferior, with the edges cutting. A third genus, containing many species, also requires to be distinguished, as having only two rows of teeth, one of which is hooked: in these the opening of the mouth is rounded. There remains the genus *Abramis*, distinguished by its long anal fin, in which the teeth are bevilled off and have a cutting edge: of this genus eight species are known to Professor Agassiz.

In this enumeration of the genera of *Cyprinidæ* M. Agassiz limited himself to the European forms, and scarcely adverted to any but European species.

In illustration of his views preparations were exhibited of the pharyngeal teeth of *Cyprinus*, *Barbus*, and other genera, from the collection of Mr. Yarrell.

October 27, 1835.

William Yarrell, Esq., in the Chair.

At the request of the Chairman, Mr. Burton exhibited, with the permission of Sir James M^c^Grigor, Bart., specimens of many *Birds* which had recently been presented to the Museum of the Army Medical Department at Chatham. He particularly pointed out among them the following which he regarded as hitherto undescribed, and for which he proposed the names and characters subjoined.

Noctua Brodiei. *Noct. brunnea; capite fasciâque gulari pallidè rufo strigatis guttatisque, dorso, alis, pectore, ventreque pallidè rufo fasciatis; mento, collo, et regione postauriculari albis; fasciâ cervicali latâ nigro albo rufoque variâ; secundariis maculâ albâ notatis; caudâ brunneâ, subtùs pallidiore, fasciis septem rufis angustis ornatâ; femoribus albis brunneo variis.*

Long. tot. 6⅛ poll.; *corporis* 4¼; *caudæ* 2¼; *tarsi* 1.

Rostrum album.

Hab. apud Montes Himalayenses.

The colouring of this bird bears a general resemblance to that of *Noct. Cuculoides*, Gould; but the peculiar cervical collar, the diminutive size, and some other characters forbid its being identified with that species.

It is dedicated to Sir Benjamin Brodie, Bart., V.P.R.S., &c., in token of high respect and ancient friendship.

Phœnicura MacGrigoriæ. *Phœn. capite, collo, dorso, scapularibus, rectricumque pogoniis externis saturatè cæruleis; fronte, regione superciliari, uropygioque cæruleis; remigibus rectricumque pogoniis internis brunneis; mento regioneque præoculari nigris; collo utrinque maculâ cæruleâ bellè notato; pectore ventreque brunneis, hoc pallidiore.*

Long. tot. 5¼ poll.; *corporis*, 3¼; *caudæ*, 2; *tarsi*, ¾.

Rostrum nigrum; *pedes* brunnei.

Hab. apud Montes Himalayenses.

This graceful bird is named in honour of the only daughter of Sir James M^c^Grigor, Bart., M.D., F.R.S., Director General of the Army Medical Department.

Sylvia? castaneo-coronata. *Sylv. corpore suprà, alis, caudâque*

olivaceis; capite genisque castaneis; subtùs flavo, olivaceo tincto, gulá nitidè flavá; alis caudáque subtùs remigumque pogoniis internis brunneis; caudá minimá.

Long. tot. 3⅞ poll.; *corporis*, 2⅞; *tarsi*, 1.

Mandibula superior nigra, *inferior* alba; *pedes* pallidi.

This bird is provisionally retained in the genus *Sylvia*; but the imperfect development of the tail, and the length and strength of the toes, more particularly of the posterior one, will probably at some future time render it the type of a new genus.

SYLVIA BURKII. *Sylv. corpore suprà flavescenti-viridi, subtùs flavo; capite maculis elongatis irregularibus nigrescentibus duabus nebuloso; alis prope flexuram seriebus duabus punctorum flavorum obsoletorum fasciatis; remigum pogoniis internis brunneis; caudá brunneá præter rectricum externarum duarum pogoniis internis albis.*

Long. tot. 5 poll.; *corporis*, 3; *caudæ*, 2; *tarsi*, ¾.

Mandibula superior nigrescens tomio apiceque albis, *inferior* alba; *pedes* albescentes.

Hab. apud Montes Himalayenses.

This bird is named in honour of Dr. Burke, Inspector General of Hospitals, Principal Medical Officer of the King's Army in India, by whom these birds were presented, and who has enriched the Museum with an extensive collection in ornithology from Northern India.

ÆGITALUS FLAMMICEPS. *Æg. capite flammeo; dorso scapularibusque flavescenti-viridibus; uropygio viridescenti-flavo; alis flavo viridi brunneo albidoque variis; remigibus rectricibusque brunneis, pogoniis internis viridescentibus, ad apices albo ciliatis; gulá flammeá, in flavum ad pectus transeunte; ventre flavescenti albido; alis subtùs albis, nisi externè et infernè.*

Long. tot. 3¾ poll.; *corporis*, 2¼; *caudæ*, 1½; *tarsi*, 1.

Rostrum nigrum, mandibulæ superioris tomio nisi ad apicem albo; *pedes* nigri. *Alæ* caudam longitudine subæquantes; remigibus 2dâ 3tiâque longioribus. *Caput* subcristatum.

Hab. apud Montes Himalayenses.

Two species of this genus are already known and described, *Æg. Smithii* and *Æg. pendulinus*: the present therefore forms the third of M. Boié's subdivision.

Genus SYLVIPARUS.

Rostrum parvulum, brevissimum, compressum nisi ad basin; *mandibulæ* æquales, superior paululum ad apicem arcuata; *nares* plumis setaceis tectum.

Pedes ut in genere *Paro*.

Alæ longiores, fere ad extremam caudam extensæ, remige 1mâ verâ breviore, 2ndâ, 3tiâ, et 4tâ æqualibus et longissimis, 5tâ his paulo breviore, 6tâ primam æquante.

Cauda mediocris, æqualis.

SYLVIPARUS MODESTUS. *Sylv. corpore suprà brunnescenti-viridi, subtùs viridescenti-albido; remigibus rectricibusque brunneis, pogoniis externis flavescenti-viridi ciliatis.*

Long. tot. 4 poll.; *corporis*, 2¼; *caudæ*, 1¾; *tarsi*, ⅘.

Rostrum pedesque nigrescentes.

Hab. apud Montes Himalayenses.

It is reluctantly proposed to institute a new genus in a family already sufficiently complicated; nevertheless, as this bird combines the characters of *Sylvia*, *Regulus*, and *Parus* in its wing, tail and bill, it is deemed necessary to make it the type of a genus of which more species will probably be discovered as our intercourse with the remote regions from whence it is derived becomes more extended.

PICUMNUS INNOMINATUS. *Pic. corpore suprà flavescenti-viridi, subtùs sordidè albo maculis nigris conspicuis in fascias ad ventrem lateraque confluentibus notato; fronte nigro aurantiacoque obscurè fasciato; remigibus brunneis, pogoniis externis flavescenti-viridi ciliatis; rectricibus intermediis nigris, cæteris albo nigroque fasciatis; colli lateribus brunneis, lineâ albâ supra oculum oriente alterâque sub oculum et inde ad scapulam ductis ibique confluentibus.*

Long. tot. 4 poll.; *corporis*, 2¾; *caudæ*, 1¼; *tarsi*, ⅓.

Rostrum nigrum albo basin versus varium; *pedes* brunnei.

Hab. apud Montes Himalayenses.

This is the only species of *Picumnus* yet discovered in the Old World.

Mr. Burton also exhibited a fine specimen of that splendid bird, *Eurylaimus Dalhousii*, Wils., likewise from the Chatham collection, of which only two other specimens are known to exist in Europe.

Various specimens of *Fishes* and other marine animals, collected by J. B. Harvey, Esq., Corr. Memb. Z.S., on the south coast of Devonshire, were exhibited: and Mr. Yarrell called the attention of the Meeting to them, and to the *Fishes* in particular, remarking on their characters and habits, and on the peculiarities of their internal structure.

A note by Mr. Allis of York, forwarded through Mr. Bell, was read.

It referred to the statement made by Mr. Martin at the Meeting on February 10, 1835 (page 17), that in the *Adjutant, Ciconia Argala,* Vig. and Childr., and in the *common Heron, Ardea cinerea,* Linn., no less than in the *Pelicans,* the *os furcatum* is united by bone to the anterior *apex* of the keel of the *sternum.* After remarking that this statement is at variance with his experience, Mr. Allis proceeds thus:—"I have prepared a skeleton of the *Adjutant*; two of the *purple Heron*; two *Storks*; three of the *common Heron*; one *common Bittern*; one *little Bittern*; one American small *green Heron*; a British *Crane*; and a Polish *Crane*. Among all these the *Cranes* are the only birds where there is true osseous union between the *furculum* and the keel: and in the *Cranes* the *furculum* is rather a forked elongation of the keel than a distinct bone. Out of more than two hundred birds' skeletons which I have mounted, the *Pelican* is the only other bird where the *furculum* and *sternum* form one bone. The *Cormorant* and the *Gannet* have the *furculum* resting on the apex of the keel like the *Adjutant* and the *Herons,* but there is no bony junction. I think the specimens of Mr. Martin must have been extremely old birds, or that the bone must have been injured at the point of union, and that the osseous union was formed in consequence of that injury. The *Heron's* skeletons which I have myself prepared are by no means young birds; but I suppose extreme old age would be very likely to form a bony junction between bones pressing so close to each other as they do in this case.

"It may be thought singular that I should prepare duplicates of the skeleton of so common a bird as the *common Heron*. The reason is, that two of the skeletons exhibit curious specimens of nature's reparation of broken limbs, and the third is a singular instance of malformation. The *sternum* of the *Heron* is united to the vertebral column by four short ribs which are attached to four of the largest of the long ribs: this specimen has the usual number of short ribs; but one of them is placed so far forward on the *sternum* as to be quite out of the reach of any of the vertebral or long ribs; and the last of the four long ribs which is usually attached to one of the short or sternal ribs, wanting its usual support, is attached by cartilage to the rib immediately preceding it."—T. A.

A Note from Mr. Martin, on the same subject, was subsequently read.

Mr. Martin admits the incorrectness of his previous statement as regards the *Adjutant* and the *common Heron*; but remarks that the union, although not effected by bone, is yet so close as probably to have nearly the same physiological consequence as if anchylosis had actually taken place. When considering the *sternum* and *os furcatum* of the *Pelican* as structurally bearing upon the bird's powers of flight, he looked for analogies of the structural point in question among birds of ample wing, and of slow but untiring flight. Observing them in the birds to which he had before referred, he did not accurately draw the line of distinction between anchylosis, and a firm and close attachment with only thin cartilage intervening between the bones. With regard to the effects produced upon aerial progression, he conceives that, *cæteris paribus*, it is immaterial whether the union be that of anchylosis or not, provided the junction be firm and intimate.

Mr. Martin thinks it, however, probable that in the *Adjutant*, when old, a bony union may take place; the junction between the *os furcatum* and the *sternum* in the Society's skeleton of this bird being so close as almost to admit of its being regarded as a kind of suture. In an adult example of the *Stanley Crane*, *Anthropoides paradisæus*, Bechst., where the anchylosis between these bones is fairly perfected, he finds traces of the obliteration of a similar mode of union.

Referring to Mr. Allis's remark that in the *Cranes* the *os furcatum* is rather a forked elongation of the keel than a distinct bone, Mr. Martin observes that the anchylosis which takes place in those birds does not render the *os furcatum* less a distinct bone in reality than where its union is by cartilage or suture; for in these latter cases it is only by an arrest of the process of ossification—a natural arrest, it is true—that anchylosis has not been effected.

Mr. Gould, at the request of the Chairman, exhibited drawings of ten species of *Ramphastidæ* which had become known to him since he published, in 1834, his 'Monograph' of that family. Several of these birds had already been brought under the notice of the Society. He now named and characterized the remaining ones as follows.

RAMPHASTOS CITREOPYGUS. *Ramph. tectricibus caudæ superioribus sulphureis.*

Long. tot. 20 poll.; *rostri*, 5⅛; *alæ*, 9¼; *caudæ*, 6; *tarsi*, 2.

Hab. in Brasilia?

DESCR. Rostrum (pro corporis ratione) minus, nigrum, fasciâ basali culmineque prope basin flavis. Pectus albidum flavescente tinctum. Torques pectoralis coccinea latiuscula. Orbitæ tarsique plumbei, hi saturatiores.

RAMPHASTOS OSCULANS. *Ramph. rostro nigro, culmine fasciâque basali stramineis; pectore in medio aurantiaco.*

Long. tot. 18 poll.; *rostri*, 4½; *alæ*, 7¼; *caudæ*, 6½; *tarsi*, 1¾.

Hab. in Brasiliâ.

DESCR. *Ramph. culminato*, Gould, quam proximè accedit. Pectus aurantiacum, latera versus in flavum transiens; gula regioque parotica albæ. Torques pectoralis subangustata.

PTEROGLOSSUS PLURICINCTUS. *Pter. gastræo flavo, fasciâ pectorali nigrâ, alterâque subventrali anticè nigrâ posticè coccineâ.*

Long. tot. 20 poll.; *rostri*, 4½: *alæ*, 6½: *caudæ*, 8½.

Hab. in Brasiliâ.

DESCR. *Pter. regali*, Licht., affinis. Rostrum ad basin lineâ elevatâ flavâ cinctum: maxillæ superioris culmen, linea intrabasalis, tomiique pars posterior nigræ; latera aurantiaco-flava apicem versus pallescentia: maxilla inferior nigra. Caput collumque nigra; fœminæ regio parotica castanea, fasciaque guttur posticè cingens coccinea. Pectus et venter maculis indistinctis sparsis coccineis notati. Femora olivacea.

PTEROGLOSSUS HUMBOLDTII, Wagl. *Pter. gastræo flavo; mandibulâ inferiore nigrâ, superiore flavescente, culmine, apice, lineâ prope basin, serraturarumque maculis transversis nigris.*

Long. tot. 16–17 poll.; *rostri*, 4; *alæ* 5½; *caudæ*, 6¾; *tarsi*, 1⅜.

Hab. in Brasiliâ.

DESCR. *Pter. inscripto*, Swains., maximè affinis, sed major. Rostrum majus, magisque productum: mandibulæ superioris lituræ omnes angustiores.

PTEROGLOSSUS NATTERERI. *Pter. ventre flavo, femoribus castaneis, crisso coccineo; rostro rubro, culmine, maculâ prope basin utriusque mandibulæ, plurimisque subtransversis ad serraturas nigris.*

Long. tot. 13½ poll.; *rostri*, 2⅝; *alæ*, 5½; *caudæ*, 5; *tarsi*, 1½.

Hab. in Brasiliâ.

DESCR. *Pter. maculirostri*, Licht., admodum affinis, in sexu utroque. Rostri colores toto cœlo diversi: sicut et ventris femorumque.

PTEROGLOSSUS REINWARDTII, Wagl. *Pter. ventre aurantiaco castaneo tincto, crisso coccineo; culmine rostrique dimidio apicali nigrescenti-brunneis, basali rufescente.*

Long. tot. 12–13 poll.; *rostri*, 2½; *alæ*, 5; *caudæ*, 5¾; *tarsi*, 1½.

Hab. in Brasiliâ.

Præcedenti valdè affinis. Rostrum magis elongatum, coloribusque maximè diversum: prope basin mandibulæ superioris tomium nigro trimaculatum. Rectrices intermediæ quatuor brunneo apiculatæ: in *Pter. Nattereri* et *Pter. maculirostri*, rectricum sex intermediarum apices similiter notati sunt.

PTEROGLOSSUS LANGSDORFFII, Wagl. *Pter. ventre castaneo, crisso coccineo; rostro nigrescenti-brunneo basin versus pallescente.*

Long. tot. 13½ poll.; *rostri*, 2¾; *alæ*, 5¾; *tarsi*, 1½.

Hab. in Brasiliâ.

DESCR. *Pter. Culik*, Wagl., affinis. Rostri ad basin ventrisque color alius. (Rectricum apices desiderantur.)

PTEROGLOSSUS PAVONINUS, Mus. Mun. *Pter. suprà prasinus, subtùs pallidior, crisso rectricumque apicibus brunneis; rostro infernè et ad basin nigro.*

Long. tot. 13–14 poll; *rostri*, vix 3½; *alæ*, 5¼; *caudæ*, 5½; *tarsi*, 1¼.

Hab. in Mexico.

DESCR. *Pter. prasino*, Licht., propemodo affinis. Rostrum nigrum, ad basin lineâ aurantiacâ cinctum; mandibula superior pro maximâ parte apicem versus flava in cœruleo-viridem supernè transiens.

Mr. Gould concluded by stating that it was his intention immediately to publish, as a supplement to his 'Monograph of the *Ramphastidæ*,' the drawings which he had laid before the Meeting. Of that family thirty-three species are now known to him, which may be distinguished by the following Synoptic Table of the species of

RAMPHASTIDÆ.

I. Caudâ breviore, quadratâ: rostro maximo. *Nigri, gutture caudæque tegminibus discoloribus.*—RAMPHASTOS.

Caudæ tegminibus superioribus flavis vel flavescentibus.	
Pectore albo.	
Rostro ut plurimum nigro, lateribus compressis	1. *culminatus.*
—— convexis	2. *Cuvieri.*
—————— rubro	3. *erythrorhynchus.*
Pectore pallidè lutescente	4. *citreopygus.*
——— flavo	5. *osculans.*
Caudæ tegminibus superioribus albis.	
Pectore albo	6. *Toco.*
——— flavo.	
Rostro pluricolore	7. *carinatus.*
——— obliquè dimidiatim flavo	8. *Swainsonii.*
Caudæ tegminibus superioribus coccineis.	
Rostro nigro.	
Auribus albis	9. *vitellinus.*
——— pectori concoloribus, (sc. flavis)	10. *Ariel.*
Rostro viridescente	11. *dicolorus.*

II. Caudâ longiore, gradatâ: rostro majore. *Viridescentes; capite, gastræo, tegminibusque caudæ superioribus in plurimis discoloribus.*—PTEROGLOSSUS.

Gastræo bi-vel pluri-colore, coloribus discretis.
Pectore ventreque flavis, fasciatis.
Fasciâ ventrali coccineâ, latâ.

Maxillæ superioris lateribus sordidè albis . .	1. *Aracari.*
——————— obliquè dimidiatis nigris . . .	2. *castanotis.*
Fasciâ ventrali anticè nigrâ posticè coccineâ.	
Pectore maculâ nigrâ notato .	3. *regalis.*
——— torque latâ nigrâ cincto .	4. *pluricinctus.*
Pectore coccineo.	
Torque pectorali vel nullâ vel angustâ, flavâ	5. *bitorquatus.*
——————— latissimâ, nigrâ .	6. *Azaræ.*
Pectore ventreque flavis, haud fasciatis.	
Maxillâ superiore dimidiatim flavâ et aurantiacâ	10. *viridis.*
——————— flavâ, nigro inscriptâ.	
Maxillâ inferiore nigrâ	11. *Humboldtii.*
——————— superiori concolore	12. *inscriptus.*
Pectore gutturi concolore, ventre discolore.	
Maxillâ superiore nigro maculatâ, albescente	13. *maculirostris.*
ut plurimum rubrâ.	
apice concolore	14. *Nattereri.*
—— nigrescente . . .	15. *Reinwardtii.*
Maxillis nigris,	
basin versus rubris	16. *Culik.*
paullum cinerascentibus . .	17. *Langsdorffii.*
Gastræo unicolore, vel subunicolore.	
Gastræo stragulo discolore.	
Gastræo flavo, rubro intermixto .	7. *ulocomus.*
——— cœruleo-cano	8. *hypoglaucus.*
——— flavo	9. *Bailloni.*
Gastræo stragulo subconcolore.	
Crisso discolore.	
Mandibulæ superioris basi flavescente	18. *prasinus.*
——————————— nigro	19. *pavoninus.*
Crisso concolore.	
Uropygio concolore.	
Rectricum apicibus concoloribus	20. *sulcatus.*
——————intermediarum duarum apicibus castaneis .	21. *Derbianus.*
Uropygio coccineo	22. *hæmatopygus.*

The latter five of the above species are referrible to the genus proposed by Mr. Gould, on December 23, 1834, (Proceedings, Part ii. p. 147,) under the name of *Aulacorhynchus*.

The following "Observations on the Habits, &c. of a male *Chimpanzee, Troglodytes niger*, Geoff., now living in the Menagerie of the Zoological Society of London, by W. J. Broderip, Esq., V.P.Z.S., F.R.S., &c.," were read:—

"The interesting animal whose habits in captivity I attempt to describe, was brought to Bristol in the autumn of this year by Capt. Wood, from the Gambia coast. The natives from whom he received it, stated that they had brought it about one hundred and twenty miles from the interior of the country, and that its age was about twelve months. The mother was with it, and, according to their report, stood four feet six inches in height. Her they shot,—and so became possessed of her young one; and those who have seen our animal will well understand what Dr. Abel means, when, in his painful description of the slaughter of an Asiatic *Orang* (*Pithecus Satyrus*, Geoff.), he observes that the gestures of the wounded creature during his mortal sufferings, the human-like expression of his countenance, and the piteous manner of his placing his hands over his wounds, distressed the feelings of those who aided in his death, and almost made them question the nature of the act they were committing. During the period of his being on ship-board, our *Chimpanzee* was very lively. He had a free range, frequently ran up the rigging, and showed great affection for those sailors who treated him kindly.

"I saw him for the first time on the 14th instant, in the kitchen belonging to the Keeper's apartments. Dressed in a little Guernsey shirt, or banyan jacket, he was sitting child-like in the lap of a good old woman, to whom he clung whenever she made a show of putting him down. His aspect was mild and pensive, but that of a little withered old man; and his large eyes, hairless and wrinkled visage, and man-like ears, surmounted by the black hair of his head, rendered the resemblance very striking, notwithstanding the depressed nose and the projecting mouth. He had already become very fond of his good old nurse, and she had evidently become attached to her nursling, though they had been acquainted only three or four days; and it was with difficulty that he permitted her to go away to do her work in another part of the building. In her lap he was perfectly at his ease; and it seemed to me that he considered her as occupying the place of his mother. He was constantly reaching up with his hand to the fold of her neck-kerchief, though when he did so she checked him, saying "No, Tommy, you must not pull the pin out." When not otherwise occupied, he would sit quietly in her lap, pulling his toes about with his fingers, with the same pensive air as a human child exhibits when amusing itself in the same manner. I wished to examine his teeth; and when his nurse, in order to make him open his mouth, threw him back in her arms and tickled him just as she would have acted towards a child, the caricature was complete.

"I offered him my ungloved hand. He took it mildly in his, with a manner equally exempt from forwardness and fear;—examined it with his eyes, and perceiving a ring on one of my fingers, submitted that and that only to a very cautious and gentle examination with his teeth, so as not to leave any mark on the ring. I then offered him my other hand with the glove on. This he felt, looked at it, turned it about, and then tried it with his teeth. His sight and his ordinary touch seemed to satisfy him in the case of a natural surface, but, as it appeared to me, he required something more to assure his senses when an artificial surface was presented to him; and then he applied the test of his teeth.

"At length it became necessary for his kind nurse to leave him; and after much remonstrance on his part, she put him on the floor. He would not leave her, however, and walked nearly erect by her side, holding by her gown, just like a child. At last she got him away by offering him a peeled raw potato, which he ate with great relish, holding it in his right hand. His keeper, who is very attentive to him, and whom he likes very much, then made his appearance, and spoke to him. Tommy (for by that name they call him) evidently made an attempt to speak too, gesticulating as he stood nearly erect, protruding his lips, and making a hoarse noise "hoo-hoo" somewhat like a deaf and dumb person endeavouring to articulate. He soon showed a disposition to play with me, jumping on his lower extremities opposite to me like a child, and looking at me with an expression indicating a wish for a game of romps. I confess I complied with his wish, and a capital game of play we had.

"On another occasion, and when he had become familiar with me, I caused, in the midst of his play, a looking-glass to be brought, and held it before him. His attention was instantly and strongly arrested: from the utmost activity he became immoveably fixed, steadfastly gazing at the mirror with eagerness and something like wonder depicted on his face. He at length looked up at me—then again gazed at the glass. The tips of my fingers appeared on one side as I held it—he put his hands and then his lips to them—then looked behind the glass—then gazed again at its surface—touched my hand again, and then applied his lips and teeth to the surface of the glass—looked behind again, and then, returning to gaze, passed his hands behind it, evidently to feel if there was anything substantial there. A savage would have acted much in the same way, judging from the accounts given of such experiments with the untutored natives of a wild and newly discovered land.

"I broke a sugared almond in two, and, as he was eating one half, placed the other, while he was watching me, in a little card-box which I shut in his presence—as soon as he had finished the piece of almond which he had, I gave him the box. With his teeth and hands he pulled off the cover, took out the other half, and then laid the box down. He ate the kernel of this almond, rejecting the greatest part of the sugary paste in which it was incased, as if it had been a shell: but he soon found out his error; for, another almond being presented to him, he carefully sucked off the sugar and left the kernel.

I then produced a wine-glass, into which I poured some racy sherry, and further sweetened it with sugar. He watched me with some impatience, and when I gave him the glass he raised it with his hands to his lips, and drank a very little. It was not to his taste, however, for he set down the glass, almost as full as he had taken it up; and yet he was thirsty, for I caused a tea-cup with some sugared warm milk and water to be handed to him, and he took up the cup and drained it to the last drop.

"I presented him with a cocoa-nut, to the shell of which some of the husk was still adhering: the tender bud was just beginning to push forth—this he immediately bit off and ate. He then stripped off some of the husk with his teeth, swung it by the knot of adhering husk-fibres round his head, dashed it down, and repeatedly jumped upon it with all his weight. He afterwards swung it about and dashed it down with such violence that, fearing his person might suffer, I had it taken away. A hole was afterwards bored through one of the eyes, and the cocoa-nut was again given to him. He immediately held it up with the aperture downwards, applied his mouth to it, and sucked away at what milk there was with great glee.

"As I was making notes with a pencil, he came up, inquisitively looked at the paper and pencil, and then took hold of the latter. Before I gave it up, I drew the pencil into the case, foreseeing that he would submit the pencil-case to examination by the teeth. Immediately that he got it into his possession, he put the tip of his little finger to the aperture at the bottom, and having looked at it, tried the case with his teeth.

"While his attention was otherwise directed I had caused a hamper containing one of the *Pythons* to be brought into the room and placed on a chair not far from the kitchen dresser. The lid was raised, the blanket in which the snake was enveloped was opened, and soon after Tommy came gamboling that way. As he jumped and danced along the dresser towards the basket, he was all gaiety and life. Suddenly he seemed to be taken aback, stopped—

then cautiously advanced towards the basket, peered or rather craned over it—and instantly with a gesture of horror and aversion, and the cry of Hoo! hoo! recoiled from the detested object, jumped back as far as he could, and then sprang to his keeper for protection. He was again put down, his attention diverted from the basket, and, after a while, tempted to its neighbourhood by the display of a fine rosy-cheeked apple, which was at last held on the opposite rim of the hamper. But no—he would evidently have done a good deal to get at the apple; but the gulf wherein the serpent lay was to be passed, and after some slight contention between hunger and horror, off he went and hid himself. I then covered up the snake, and after luring him out with the apple, placed it on the blanket—No. I then shut down the lid—still the same desire and the same aversion. I then had the hamper, with the lid down, removed from the chair on which it had been placed to another part of the room. The apple was again shown to Tommy and placed on the lid. He advanced cautiously, looking back at the empty chair and then at the hamper: he advanced further with evident reluctance, but when he approached near he peered forward toward the basket, and, as if overcome by fright, again ran back and hid himself under his cage.

"I now caused the hamper with the serpent to be taken out of the room. Our friend soon came forward. I showed him the apple and placed it on the chair. He advanced a little, and I patted his head and encouraged him. He then came forth and went about the room, looking carefully as if to satisfy himself that the snake was gone—advanced to the chair more boldly,—looked under it—and then took the apple and ate it with great appetite, dancing about and resuming all his former gaiety.

"We know that there are large constricting serpents in Africa; and as the animal must have been very young when separated from its parent, I made this experiment in particular to try his instinct: it succeeded to the entire satisfaction of the witnesses who were present.

"He manifested aversion to a small living tortoise, but nothing like the horror which he betrayed at sight of the snake. I was induced to show him the former by the account of the effect produced by *Testudinata* on the Asiatic *Orang*, whose habits are so admirably described by Dr. Abel and Captain Methuen, who brought the animal to England.

"Tommy, among other exercises, is very fond of swinging. He places himself on the swing, generally in a sitting posture, holding on each side with his hands. He not unfrequently puts up his feet and grasps the cord on either side with them too, appearing more at home on his slack rope than Il Diavolo Antonio himself.

"James Hunt, one of the keepers, has observed him frequently sitting and leaning his head on his hand, attentively looking at the keepers when at their supper, and watching, to use Hunt's expression, "every bit they put into their mouths." Fuller, the head keeper, informs me that our *Chimpanzee* generally takes his rest in a sitting posture, leaning rather forward with folded arms and sometimes with his face in his hands. Sometimes he sleeps prone, with his legs rather drawn up, and his head resting on his arms.

"Of the *black Orangs* which I have seen, Tommy is by far the most lively. He is in the best health and spirits, and is a very different animal from the drooping, sickly *Chimpanzees* that I have hitherto seen. A good deal of observation made on the Asiatic *Orangs* which have been exhibited in this country, satisfies me that the intelligence of the African *Orang* is superior to that of the Asiatic. This intelligence is entirely different from that of a well-educated dog or a mere mimic, and gives me the idea of an intellect more resembling that of a human being than of any other animal, though still infinitely below it.

"The *Pygmy* of Tyson and the *black Orang* dissected by Dr. Traill, and so well described by him in the 'Wernerian Transactions,' are both stated to have progressed generally by placing their bent fists on the ground and so advancing: indeed Dr. Traill says that the individual which he saw never placed the palms of the hands on the ground. The progression of Dr. Abel's *red* or *Asiatic Orang* is described to have been after the same fashion. Whether it is that our *Chimpanzee* is in better health and more lively, I know not, but he certainly passes a great deal of his time in a position nearly approaching to erect, nor does he, generally, place the bent knuckles to the ground. He will often stand on the top of his cage and apply the palms of his hands to the smooth surface of the wall against which it stands. It is said that a spectator who saw him thus employed, with his back to the company, dressed in his little banyan jacket and woollen cap, was told by a companion to look at the monkey, as he profanely called him. "Where is he?" was the reply. "Why there on the top of the cage," was the answer. "What!" said the first, "that little man who is plastering the wall?"

"Tommy does not like confinement, and when he is shut into his cage, the violence with which he pulls at and shakes the door is very great, and shows considerable strength; but I have never seen him use this exertion against any other part of the cage, though his keeper has endeavoured to induce him to do so in order to see whether he would make the distinction. When at liberty he is extremely playful, and, in his high jinks, I saw him toddle into a corner where an unlucky bitch was lying with a litter of very young pups, and lay hold of one of them, till the snarling of the mother and the voice of his keeper, to which he pays instant respect, made him put the pup down. He then climbed up to the top of the cage where the *Marmozets* were, and jumped furiously upon it, evidently to astonish the inmates, who were astonished accordingly, and huddled together, looking up in consternation at this dreadful pother o'er their heads. Then he went to the window, opened it and looked out. I was afraid that he might make his escape: but the words "Tommy, no!" pronounced by his keeper in a mild but firm tone, caused him to shut the window and come away. He is in truth a most docile and affectionate animal, and it is impossible not to be taken by the expressive gestures and looks with which he courts your good opinion, and throws himself upon you for protection against annoyance.

"It must be remembered that though I have not observed our *Chimpanzee* to progress with his bent knuckles touching the ground, as I have seen the *Asiatic Orangs* move, there is no reason for doubting the accurate descriptions of Tyson and Dr. Traill. I consider it as my province to relate faithfully what I saw, and I have only seen our *Chimpanzee,* as yet, in a small room, where a very few paces will bring him to a chair, a leg of a dresser, or some other piece of furniture which enables him to call into action his prehensile hands and feet, so admirably adapted to his arboreal habits. The narrowness of the *pelvis*, the comparatively inferior development of the *glutæi* * and *gastrocnemii* muscles, and other peculiarities of conformation so ably pointed out by Tyson, Dr. Traill, and others, but more particularly by Mr. Owen, show that the erect, or, more properly speaking, the semi-erect position, is not the natural one; though my observations upon living *Asiatic Orangs* and *Chimpanzees* accord with the inference drawn by Mr. Owen from the comparative organization of the latter, viz. that the semi-erect position is more easily maintained by the *Chimpanzee* than by any of the other known *Simiæ.*

"The great intelligence and strength of the individual now in the menagerie of the Society, added to the state of its dentition, raised a doubt in my mind as to the accuracy of the report of its age; and I wrote to my friend Mr. Owen my suspicion that he might be older than he was said to be. I received the following reply, in which so much valuable information is concentrated that I feel it to be due to those who may think this memoir worthy of attention to give it as I received it.

'21st October, 1835.

"'My dear Broderip,—I feel that we have no data towards determining with certainty the exact age of the young *Chimpanzee* at the Gardens: its present state of dentition corresponds to that which our own species presents during the period of from 2 to 7 years, viz. incisors $\frac{4}{4}$, canines $\frac{2}{2}$, molars $\frac{4}{4}$, all of which belong to the deciduous series. The deciduous canines appear in the human jaws before the completion of the second year; and those of the *Chimpanzee*, are certainly the temporary ones, but are protruded by the enlarged germs of the permanent teeth behind them, so as to appear larger than natural. From this circumstance and from the space already existing beyond the deciduous molars, I infer that the appearance of some of the permanent teeth is near at hand; and we may still see an additional molar protruding in each jaw before the winter is over, if the poor animal should survive that period.

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* This must be understood as limited to a comparison with the same muscles in man; for there is in the *Chimpanzee* as Mr. Owen observes, "a provision for a more extended attachment for the *glutæi* muscles, in a greater breadth of the *ilia* between the superior spinous processes, than is observed in the inferior *Simiæ.*"

" 'The human child acquires the corresponding permanent molars at the seventh year; and from the appearances on the jaws of our *Chimpanzee* I conclude that its age tallies with that of 5 or 6 years in us. But analogy will be dangerous ground for an inference as to precise age, since it is by no means improbable that, where the brain is so much less developed, the full use of it may be much earlier acquired, such as it is; and that the shedding of the teeth may take place at a proportionally early period.

' Believe me, &c. ' RICHARD OWEN.'

" I now proceed to the measurements of our male specimen, premising that the operation was a work of no small difficulty in consequence of the restlessness of the animal. Indeed I am not sure now about the height, though I am confirmed in the measurements by Mr. Miller and Fuller. The *Chimpanzee* would keep drawing up his legs and putting the *musculus scansorius* detected by Dr. Traill into action; and it was not practicable to make him stand or lie quite straight with his legs entirely extended.

	Ft.	In.
Height from the heel to the top of the head	2	0
Circumference of the bottom of the breast	1	5
———————— round the hips	1	3¼
———————— of the head round the eyes and ears ..	1	3
Opening of the mouth	0	3¼
Height from the middle of the upper lip to the eyebrows	0	3¼
Length from the eyebrows to the *occiput*	0	7½
Diameter of the ear upwards	0	2¾
Transverse diameter of the same..................	0	1¾
Circumference of the external edge of the same......	0	6⅛
———————— of that part which adheres to the head	0	4¾
Height from the upper point of the *pubis* to the clavicle	0	10⅛
Distance between the navel and *sternum*	0	4¼

Distance between the navel and *pubis*	0	3¼
——————— nipples	0	4
Length of the arm from the shoulder to the end of the fingers	1	4½
Circumference of the arm	0	6
————— of the forearm four inches above the wrist	0	6¼
Length of the hand from the wrist to the end of the middle finger	0	5¼
Circumference of the hand	0	4½
Length of the thumb	0	1¼
————— second finger	0	2½
————— middle finger	0	3¼
————— fourth finger	0	3
————— fifth finger	0	2½
Circumference of the thumb and little finger	0	1¼
——————— other fingers	0	1⅝
Length of the palm	0	2⅞
Breadth of ditto	0	2
Height from the heel to the extremity of the thigh-bone	0	11½
Length from the heel to the extremity of the middle (longest) toe	0	5½
Circumference of the thigh	0	8¾
——————— leg, at its thickest part	0	6
——————— foot, taken from the origin of the thumb	0	5¼
Length of the thumb or great toe	0	1½
————— second toe	0	2
————— third toe	0	2¼
————— fourth toe	0	2¼
————— fifth toe	0	1¾
Greatest breadth of the sole at the origin of the thumb or great toe	0	2½
——————————— near the heel	0	1¾
Circumference of the great toe at the largest point	0	1¾
——————— other toes	0	1¼

"On referring to the dimensions given by Daubenton we shall be struck with the stoutness of our specimen as compared with that of the individual which was the subject of his observations.

"It was my intention to have added a particular description of the individual which has been the subject of this memoir; but on carefully inspecting the animal I find Dr. Traill's elaborate description so accurate—(there really is no difference but sex at present)—that I should be needlessly occupying space if I inserted my own; and I beg, therefore, to refer the reader to that gentleman's highly valuable papers in the 'Wernerian Transactions'.

" Since writing the above the cage in which our animal was confined has been enlarged and several barked branches have been nailed to a stem so as to form an artificial tree. These branches he ascends with great activity, and frequently swings with his head downwards, holding on by his lower extremities, and recovering himself with greater agility than any rope-dancer."—W. J. B.

November 10, 1835.

Thomas Bell, Esq., in the Chair.

At the request of the Chairman, Mr. Gould exhibited a specimen of the true *Lanner Hawk, Falco Lanarius*, Linn., and entered into some details with respect to its distinguishing peculiarities. Its real characters, he stated, have hitherto been so imperfectly understood as to have led to very general doubts as to its existence as a distinct species.

Mr. Gould also exhibited specimens of two species of *Pheasant*, both of very great rarity, which had recently come into his possession: they were the *Phasianus Sœmmeringii*, Temm., and the *Phas. versicolor*, Ej. He accompanied the exhibition by some remarks on the subdivisions which appear to him to be required among the *Phasianidæ* generally; and more especially on the position, among that extensive group, of the species exhibited.

Mr. Bell read "Some Account of the *Crustacea* of the Coasts of South America, with Descriptions of New Genera and Species; founded principally on the Collections obtained by Mr. Cuming and Mr. Miller. (Tribus 1, *Oxyrhynchi*.)" The paper contains characters and descriptions of the following genera and species of *Crustacea*; and was accompanied by the exhibition of the specimens described in it, and of drawings in illustration of it.

Fam. LEPTOPODIIDÆ.

Genus LEPTOPODIA, *Leach*.

LEPTOPODIA SAGITTARIA, *Leach*.
Hab. apud Valparaiso.

Genus EURYPODIUS, *Guér*.

EURYPODIUS LATREILLII, *Guér*.
Hab. apud Valparaiso, *D. Cuming*; ad Rio Janeiro, *D. Miller*.

Fam. MAIIDÆ.

Genus LIBINIA, *Leach*.

LIBINIA ROSTRATA. ***Lib. rostro producto, valido, bidentato; dentibus compressis, acutis, divergentibus.***
Long. tot. 2 poll. 8 lin., lat. 2 poll. 3 lin.
Hab. ad oras Peruviæ.

Genus RHODIA.

Testa pyriformis, in rostrum parvum bidentatum anticè producta.

Oculi retractiles, globosi, pedunculo crassiores.
Orbita fissurâ magnâ supernè apertâ.
Antennæ interiores in foveolis profundis, lunatis, anticè separatis receptæ.
Antennæ exteriores rostro duplo longiores; articulo basilari bidentato, reliquis cylindricis, ad rostri latera insertæ.
Pedum par anticum (♂ immaturi) reliquis brevius; digitis minutissimè serratis; *paria quatuor posteriora* testâ longiora, a secundo ad quintum sensim paullò breviora.
Abdomen MARIS 7-articulatum; FŒMINÆ —?
OBS. Genus *Herbstiæ* affine; differt præcipuè pedibus anticis tenuioribus abbreviatis, digitisque minutissimè tantum serratis.

RHODIA PYRIFORMIS.
Long. testæ 8 lin., lat. 6.
Hab. ad Insulas Gallapagos dictas.

Genus PELIA.

Testa pyriformis, rotundata, anticè rostro elongato apice bifido terminata.
Orbita suprà fornicata, externè unifissa, infrà emarginata.
Oculi retractiles, globosi, pedunculo crassiores.
Antennæ interiores in basin rostri insertæ.
Antennæ exteriores rostro haud multo longiores, articulo basilari longissimo ad medium rostri attinente, extùs uni-denticulato; articulis reliquis cylindricis, gracilibus.
Pedipalpi externi caule externo semifusiformi; caulis interni articulo primo elongato-rhomboideo, secundo trapezoideo, margine integro.
Pedum par anticum aliis paullò crassius, secundo brevius; digitis apicem versus serrulatis, digito immobili ad medium excavato, tuberculum unicum digiti mobilis recipiente: *paria quatuor posteriora* gracilia, compressa, pilosa.
Abdomen MARIS 7-articulatum.
OBS. Genus *Herbstiæ* et *Pisæ* affine.

PELIA PULCHELLA.
Long. testæ 4 lin., lat. 2½.
Hab. ad Insulas Gallapagos dictas.

Genus HERBSTIA, *Edw.*

HERBSTIA EDWARDSII. *Herbst. pedum pare antico inermi.*
Long. testæ 7 lin., lat. 6.
Hab. ad Insulas Gallapagos dictas.

Genus THOË.

Testa subtriangularis, depressa, horizontalis, rostro minimo apice leviter fisso terminata.
Orbita edentata, fissuris tribus inconspicuis.
Oculi retractiles, globosi, pedunculo brevi.
Antennæ interiores in fossulâ anticè tantum divisâ insertæ.

Antennæ exteriores ad latera rostri insertæ, rostro triplo longiores, pilosæ, articulo basilari lato, anticè et posticè producto.

Pedipalpi externi introrsùm ciliati, caulis interni articulo primo subrhomboideo, secundo margine integro.

Pedes antici MARIS reliquis longiores, brachiis suprà et externè serie cellularum erosis; manibus lævibus, digitis ad apicem tantum contingentibus : *posteriores* depressi, lateribus pilosis.

Abdomen in utroque sexu 7-articulatum.

OBS. Genus *Herbstiæ* affine: differt corpore depresso, rostrique formâ. Peculiares admodum cellulæ brachiorum.

THOË EROSA.
Long. testæ 5 lin., lat. 4.
Hab. ad Insulas Gallapagos dictas.

Genus HYAS, *Leach*.

HYAS EDWARDSII. *Hy. testâ anticè angustatâ, post orbitas haud coarctatâ, pilosâ; orbitarum dente interno mediocri.*
Long. testæ 9 lin., lat. 7.
Hab. apud Valparaiso et ad Insulas Gallapagos dictas.

Genus PISA, *Leach*.

PISA SPINIPES. *Pisa testâ ovatâ; dente articuli basilaris antennæ exterioris dente superorbitali longiore; margine antico-laterali et pedibus omnibus spinosis.*
Long. testæ 8 lin., lat. 4.
Hab. ad Insulas Gallapagos dictas, et apud Sanctam Elenam.

PISA ACULEATA. *Pisa testâ triangulari; dente articuli basilaris antennæ exterioris dente superorbitali breviore; margine antico-laterali inermi, regione branchiali spinis quatuor armatâ, pedibus suprà spinosis.*
Long. testæ 8 lin., lat. 7.
Hab. ad Insulas Gallapagos dictas.

Genus MITHRAX, *Leach*.

MITHRAX ROSTRATUS. *Mithr. testâ spinosâ, rostro elongato bidentato, dentibus divaricatis, terminatâ; pedibus spinosis, manibus lævibus.*
Long. testæ 2 poll. 2 lin., lat. 2 poll.
Hab.

MITHRAX URSUS (Jun. *Cancer Ursus*, Herbst). *Mithr. testâ granulatâ, verrucoso-tuberculatâ; rostri dentibus obtusis tuberculo granuloso terminatis; tuberculis octo pone rostrum, et sex circum orbitam; manibus lævibus.*
Long. testæ 2 poll., lat. eadem.
Hab. ad Insulas Gallapagos dictas.

MITHRAX NODOSUS. *Mithr. testâ trigono-ovatâ, margine tuberculis tribus fortibus, rotundatis, et dente unico; rostro brevi trifido; pedipalpis articulo secundo caulis externi lunulato; manibus lævibus,*

suprà cristatis, carpis tuberculatis; pedibus posterioribus suprà spinosissimis et pilosis.
Long. testæ 1 poll., lat. 1 poll. 3 lin.
Hab. ad Insulas Gallapagos dictas.

Mithrax denticulatus. *Mithr. testâ profundè sculptâ, margine laterali dentibus quatuor obtusiusculis; pedipalpis articulo secundo caulis interni cordato; manibus lævibus; pedibus posterioribus pilosis, spinosissimis.*
Long. testæ 5 lin., lat. 6.
Hab. ad Insulas Gallapagos dictas, sub lapidibus.

Mithrax pygmæus. *Mithr. testâ depressâ, subpentagonâ, fronte obtusissimo, lato, obsoletè bilobo.*
Long. testæ 3 lin., lat. eadem.
Hab. apud Panama.

Genus Pitho.

Testa latè ovata, rostro parvo, brevi, bifido, haud deflexo, terminatâ
Oculi pedunculo elongato, cylindrico, subcurvo, haud crassiores.
Antennæ interiores minutissimæ.
Antennæ exteriores breviusculæ, articulo basilari lamelloso, extùs dente triangulari armato; secundo compresso, cordato, anticè emarginato, et tertio multò majore; reliquis parvis cylindricis.
Pedipalpi externi caulis interni articulo secundo triangulari, extrorsùm producto.
Pedes mediocres. *Par anticum* maris — —? fœminæ reliquis minus, digitis minutè serrulatis, digito mobili longiore; *paria quatuor posteriora* ordine 2, 3, 4, 5 gradatim breviora; digitis subtùs minutissimè denticulatis.
Abdomen maris — —? fœminæ 7-articulatum.
Obs. *Micippæ* et *Paramicippæ* affine: differt præcipuè rostro minuto haud deflexo.

Pitho sexdentata. *Pitho testæ margine laterali dentibus sex triangularibus acutis.*
Long. testæ 9 lin., lat. 8.
Hab. ad Insulas Gallapagos dictas.

Pitho quinquedentata. *Pitho testæ margine laterali dentibus quinque triangularibus acutis armato.*
Long. testæ 6 lin., lat. 5.
Hab. cum præcedente.

Genus Tyche.

Testa oblonga, depressa, angulata, anticè declivis, fronte lato, rostro bidentato piloso terminata; rostri dentes compressi, obtusi, apicem versus housernè emarginati.
Orbita suprà latissima, in dente prominente complanato anticè producta, infrà carens.
Oculi pedunculo elongato graciliores.
Antennæ interiores in fossulâ ad basin rostri insertæ.

Antennæ exteriores rostro paullò longiores, articulo basilari latiusculo, anticè angustiore; articulo tertio secundo abruptè minore; omnibus externè pilosis.

Pedipalpi externi rugosi, caule exteriore subulato, caulis interioris articulo primo canaliculato, extùs profundè emarginato, secundo securiformi, tridentato.

Pedes antici graciles, simplices, pari secundo breviores, digitis inermibus: *posteriores* cylindrici, unguibus acutis, curvis, complanatis terminati.

Abdomen MARIS 7-articulatum; FŒMINÆ — —?

OBS. Genus *Creocarcino* affine.

TYCHE LAMELLIFRONS.
Long. testæ 7 lin., lat. 4.
Hab. apud Panama.

Genus PERICERA, *Latr.*

PERICERA VILLOSA. *Per. testâ depressâ, villosâ, regionibus elevatis, sulcis separatis, spinâ obtusâ laterali utrinque; rostri cornibus validis, sublamelliformibus, divergentibus; dente articuli basilaris antennæ externæ dente superorbitali multò longiore; antennis exterioribus sub rostro insertis.*
Long. testæ 1 poll. 7 lin., lat. eadem (spinis lateralibus inclusis).
Hab. in Sinu Guayaquil.

PERICERA OVATA. *Per. testâ elongato-ovatâ, spinis viginti ad viginti quatuor armatâ; dente superorbitali dente articuli basilaris antennæ externæ longiore.*
Long. testæ 1 poll., lat. 6 lin.
Hab. ad Insulas Gallapagos dictas.

PERICERA HEPTACANTHA. *Per. testâ pyriformi, dorso quinquespinoso, ordine* 1, 3, 1, *lateribus utrinque* 1-*spinosis; rostri cornibus parvis, acutis.*
Long. testæ 1 poll. 5 lin., lat. (spinis lateralibus inclusis) 1 poll. 7 lin.
Hab. apud Puerto Portrero.

Genus ACANTHONYX, *Latr.*

ACANTHONYX PETIVERII, *Edw.*
Hab. ad Insulas Gallapagos dictas, *D. Cuming*; ad oras Brasiliæ, *D. Miller.*

Genus EPIALTUS, *Edw.*

EPIALTUS DENTATUS, *Edw.*
Hab. apud Valparaiso.

EPIALTUS MARGINATUS. *Ep. testâ depressâ, lateribus marginatis; fronte latâ, antennas exteriores omnino tegente.*
Long. testæ 2 poll. 3 lin., lat. 1 poll. 8 lin.
Hab. ad oras Brasiliæ.

The skeleton was exhibited of a *Coypus, Myopotamus Coypus*, Comm., together with preparations of some of the *viscera* obtained from the

same individual, which recently died at the Society's Gardens. With reference to them the following notes by Mr. Martin were read.

"Though the *Coypus* is now well known to naturalists, I am not aware that much attention has been paid to its anatomy:—it is not often, indeed, that the living animal is brought to Europe, extensive as the importation of its skins appears to be. I am therefore not without a hope that the following notes of the examination of an individual which died in August, 1835, at the Gardens of the Society, will be found not altogether destitute of interest, imperfect as they are from circumstances over which I had no controul.

"The animal was an adult male, measuring from nose to *anus* 1 foot 11 inches; the length of the tail being 1 foot 5 inches. The body was very fat; and the subcutaneous muscle or *panniculus carnosus* was strong and extensive, as it is in aquatic *Rodents* in general. Of the external organs of generation the *penis* alone was apparent, for the *testes* are not contained in a *scrotum* but situated in the groin just without the abdominal ring; the length of the *penis* from the *pubes* was 5 inches; the *glans* was acuminate and contained an osseous stylet.

"On looking into the *abdomen*, I found that the *viscera* had previously been disarranged, in the examination which the animal had undergone with the view of ascertaining the cause of its death; their natural situation consequently could not be determined. The *liver* consisted of one left, one middle, and two right lobes, one of which was small and seated dorsad. The middle lobe was deeply cleft; and in the channel continued from the fissure on the under surface of this lobe was seated the gall-bladder, which, having been cut, was destitute of its fluid. On distending this *viscus*, however, through the *ductus choledochus*, which was as large as a crow-quill, I found its shape to be a long oval, measuring in length 2 inches, its duct being joined by a large hepatic duct, ⅓ an inch below its commencement; the total length of the *ductus choledochus communis* was 2 inches, and its entrance into the *duodenum* was just below the sacculated origin of that portion of the intestine, or 2⅓ inches from the *pylorus*.

"The *pancreas* consisted of an irregular mass or body concealed by the stomach, whence it spread itself, in thin irregular layers of an elegant arborescent arrangement, through the duodenal mesentery, between the two membranes. Its duct, owing to the previous disarrangement of the *viscera*, I could not discover; it did not appear to enter with the biliary.

"The spleen resembled a prism in its figure, and was 3 inches in length; it adhered to the cardiac portion of the stomach by a ribband of *peritoneum* 1 inch in breadth. In the *Ondatra*, the *Capromys*, and some other *Rodentia*, the spleen presents the same figure.

"The stomach closely resembled that of the *Capromys*, being of an oblong figure, both extremities having pretty nearly the same volume; the cardiac extremity projecting 3 inches beyond the entrance of the narrow *œsophagus*, and the pyloric *sacculus* a little more than 2 beyond the *pyloric orifice*. The stomach, measured in a straight line from end to end, was 7¾ inches; its greatest depth being 4½.

"The *duodenum* was found to commence with a large dilatation or *sacculus*, projecting towards the *œsophagus* like a *cæcum*; in which respect it resembles *Cælogenus* as described by Sir E. Home. In *Capromys*, *Anœma*, and *Dasyprocta* a similar dilatation, though not so considerable, has also been noticed. In circumference at this part the *duodenum* measured 4¼ inches; the decrease is gradual, and where the biliary duct enters the circumference is 3 inches; a little distance below this it is 2½. To follow the natural course of this intestine was out of my power; it has a mesentery, however, through its whole extent.

"The total length of the small intestines was 16 feet 4 inches, and their mean circumference 1¾.

"The *cæcum* was of large size, making a circular turn at its base and gradually diminishing in volume as it proceeded. It was puckered into *sacculi* by two muscular bands, one on each side; which were not however traceable quite to its extremity, but were tolerably strong in its wide basal part. In its general figure the *cæcum* had no unapt resemblance to a ram's horn. In length it measured about 1 foot 10 inches, its greatest circumference 8 inches.

"The *ileum* terminated in a sort of *sacculus* at the base of the *colon*, beyond which projected the round head of the *cæcum*: the valve indicating the separation of the *cæcum* from the *colon* is very apparent in the dried preparation.

"The *colon* began large, but gradually became narrow; on leaving the *cæcum* it was slightly sacculated for a short distance, but this appearance was speedily lost: its mean circumference was 2¾ inches. The commencement of the *colon* was not only somewhat larger than the succeeding portion, but made an abrupt turn from the *cæcum*. and after a course of 1 foot 5 inches suddenly folded upon itself, the reflected length running down for the distance of 11 inches, when it turned suddenly back again, but did not adhere so closely to the previous fold, as that did to the first length; it then became very small, and soon dipped down to constitute the *rectum*. The whole of this long loose fold reminded me of the *duodenum* of *Birds*. A similar structure is recorded by Mr. Owen in his notes on the dissection of *Capromys Fournerii*, as existing in that animal. It was near the end of the first loose fold, as also in *Capromys*, that the *fæces* began to assume a solid form in separate oval masses. The total length of the large intestines was 4 feet 4 inches.

"The kidneys were of an oval form, and very soft in their structure; their surface, the tunic being removed, presented a granular appearance. The two portions were very distinct. The *pelvis* was small; the *papilla* single. The right kidney was somewhat higher than the left. The length of each was 2 inches, the breadth 1¼. The supra-renal glands were long and rounded, of a greyish yellow externally; but their internal structure was like soft liver: each had a small cavity within. Their length was 1 inch. Their situation was mesiad of the upper extremity of each kidney.

"The lungs were of small volume, and consisted of three lobes of nearly equal size, and one very small lobe on the right; and of three lobes on the left side.

"In shape the heart was very elegant; it was compressed, and both ventricles described the half of a circle, and ended in a short sharp *apex*. The length and breadth of this organ were equal, the admeasurements being each 1¼ inch.

"The disposition of the branches given off at the arch of the *aorta* was as follows. On the right side arose a common trunk, which divided into the right subclavian and the right carotid, but gave off lower down to the left the left carotid. The left subclavian arose from the *aorta* in a distinct branch.

"In his account of the anatomy of *Capromys* Mr. Owen notices a peculiarity in the arrangement of some of the abdominal muscles: a decussation of the pillars of the *recti* muscles taking place at the *pubes*. In the *Coypus* an arrangement of a similar character was observed. It may be thus described. From the right *os pubis* and close to the *symphysis* arises a fleshy column, which crossing a column arising from the left side passes obliquely upwards, and becomes immediately united with another larger column arising more outwardly, and passing under the column of fibres from the left side, as the first does above it; and thus is constituted the left *rectus* muscle. Between these two columns, as we have said, and from the left side of the *pubes*, runs up a decussating column, which blends with another passing beneath the larger column of the left *rectus*, both forming by their union the right *rectus abdominis*. The lower column of the external oblique, with which muscle the *rectus* is blended above (as in *Capromys*) so as to appear in reality but one, has its own insertion on its own side.

"The *testes* were situated in the groin on each side of the *pubes*, enveloped in a strong cremaster of circular fibres given off from the external oblique and *transversalis*; they were capable of being passed back through the abdominal ring, which is very large, the columns of the *rectus* forming its inner edge. As in many others of the *Rodent* order, large foliated fatty processes, adhering to the *testes*, were found hanging loose in the abdominal cavity; their length was 5 inches, their breadth at the broadest part 2.

"The bladder was of the usual oval form, and, as it lay undistended with fluid, measured 2 inches in length. The ureters entered laterally near its neck.

"Beneath the ureters near their entrance the *vasa deferentia* crossed: the total length of these tubes was 5 inches; at their origin on leaving the *epididymis* they were found to be slightly tortuous, but only for a short distance. The *epididymis* consisted of a congeries of convolutions, whence a tortuous elongated portion followed the convex surface of the *testis* for two thirds of its length, and then passed into the *vas deferens*, which was enveloped in a fatty process extending from the *testes*, and spreading over the base of the *vesiculæ seminales* and the proximate portion of the ureters. The *vesiculæ seminales* were long tortuous bodies with numerous small processes or *sacculi*, giving them a knotted appearance: at their *apex* they folded down upon themselves, and terminated in a point: when extended they measured about 4 inches.

"The *urethra* at its commencement formed a sort of *cul de sac*, as noticed by Mr. Owen in the *Capromys*; and a transverse ridge separated the entrance of the bladder from the orifices of the *vasa deferentia* and *vesiculæ seminales.* Below this ridge was a small conical body, at the *apex* of which opened the *vasa deferentia*, and on the sides the *vesiculæ seminales.* The latter, when opened, were found filled with a white hard curdy matter having some resemblance to the roe of fishes. This substance filled a great portion of the *urethra* also.

"The prostate gland appeared like accessory *vesiculæ*, and was closely united to the base of those bodies: it was divided into two large lobes, each of which was found to be composed of a number of blind tubes or elongated cells, united into a mass by cellular membrane. They were easily unravelled into a tuft of long fringes, each tube being ¼ of an inch in length. These tubes all concentrated in a small spot, where they opened by a few minute orifices into the *urethra* at the base of the little conical elevation before alluded to.

"The distance from the prostate to the base of the bulb of the *urethra* was 1¾ inch.

"The membranous part of the *urethra* was closely embraced by a layer of muscular fibres: the *acceleratores urinæ* investing the bulb were large and strong: the *erectores* were fleshy; they embraced the *crura penis.* On each side of the bulb, external to the *accelerator urinæ*, lay a gland as large as a filbert, whence proceeded a tube of the diameter of a crow-quill, which passing beneath the *accelerator* entered the bulb of the *urethra* above its centre. The length of this duct was 1 inch. These glands are, I suppose, to be considered as the *glandulæ ante-prostatæ*, or Cowper's glands.

"At the extremity of the *rectum* on its abdominal aspect was situated a large glandular sac of the size of a walnut filled with inodorous creamy matter; its excretory orifice was just within the anal opening. This sac was invested with a tunic of muscular fibres continued from the *sphincter* and *levator ani.*

"The *tongue* was acuminate and 3 inches in length, its surface covered with small retroverted shining velvety *papillæ*; two large distinct *papillæ* of an oval form appearing at the base. The free part of the tongue, that is from the *frænum* to the *apex*, was ¾ of an inch. The basal portion of the *dorsum* was elevated, but not so abruptly as in some *Rodents*; the disc, however, was sufficiently marked.

"The *fauces* were found to form a funnel-shaped cavity with neither tonsils nor palate arches; but the soft palate was continuous to the posterior aperture, which barely admitted the entrance of a common quill. The *posterior nares* were continued like a funnel beyond this posterior orifice of the *fauces*, and received into their aperture the *glottis*, *epiglottis*, and arytenoid cartilages, so that the margin of the orifice of the *fauces* lay in contact with the *dorsum* of the tongue anterior to the *epiglottis*, which rose behind it, and which it was evident could not be brought at all under the soft palate; hence respiration and every vocal intonation must proceed through the nostrils.

"The *epiglottis* was broad basally, but not elevated; it assumed a rounded figure, and when pressed down did not completely cover the *rima* of the *glottis* until the *larynx* was depressed towards its base.

"A distinct fold or duplicature surrounded the opening of the *nares* into the *œsophagus*; which tube was small, and had its lining membrane corrugated into longitudinal folds.

"The sublingual glands were large.

"The *trachea* was about 3 inches in length to its bifurcation, and ¼ an inch in diameter; the *bronchi* were about 1 inch long before entering the lungs.

"To the above sketch of the visceral anatomy of the *Coypus*, I have to subjoin a few observations on some portions of its skeleton.

"Of the skulls of such *Rodentia* as I have been enabled to compare with that of the present animal, although it agrees in many points with that of *Capromys*, the one which approximates the nearest to it is that of the *Capybara*. The main outline and contour of both are very similar; they both agree in the flatness of their upper surface, in the elongation of their form, in the magnitude of the suborbital *foramen*, and in the development of the processes of the occipital bone continued from its transverse crest. When, however, we descend to details, numerous and striking points of difference are immediately observable. In the *Capybara*, for instance, the margin of the orbit is circular or nearly so, and the zygomatic arch, broad and strong, has its lower edge brought down considerably below the level of the *molares*: whereas in the *Coypus* the margin of the orbit approaches to a square, and the zygomatic arch is narrow and scarcely depends to a level with the crown of the *molares*, though it advances much further than either in the *Beaver* or *Water Rat*; in which animals the orbits, of an oval shape, have a less lateral and more vertical aspect. In the *Coypus* the temporal *fossæ* are deeper than in the *Capybara* or the *Beaver*, and the external auditory *foramen* runs obliquely forwards and downwards, while in the *Capybara* it runs obliquely downwards and inwards, and in the *Beaver* downwards and backwards. The frontal bone is divided by a permanent longitudinal suture, as it is also in *Capromys*; whereas in the *Capybara*, the *Water Rat*, and the *Beaver* no trace, at least in adults, of such a separation is visible. The *Beaver* when semiadult exhibits, however, a slight appearance of it.

"The general admeasurements of the skull of the *Coypus* before me are as follows:

	In.	Lin.
From the end of the nasal bones to the occipital ridge..	4	6
From the lower edge of one *zygoma* to the opposite ..	2	9
Breadth of the frontal bones between the orbits	1	3
From the outer edge of the last molar tooth to the edge of the *zygoma*	0	5
From the base of the incisors to the base of the first molar	1	3
From the crown of the first molar to the top of the skull where the nasal and frontal bones unite in a straight line	1	9

Length of the row of the *molares* on each side	1	1
Breadth of the lower jaw from the outer edge of one *ramus* at its broadest part to the opposite..........	3	3
From the middle of the condyle of the lower jaw to the base of the incisors	3	1

"Placing the skull before us, and surveying its upper aspect, we observe that the nasal bones are narrow and elongated, being broadest at their nasal extremity and narrowest at their frontal, as in *Capromys* and the *Water Rat*, but not in so great a degree. In the *Capybara* the contrary obtains: in the *Beaver* the nasal bones are broadest in the middle. Their length in the *Coypus* is 1¾ inch, their united breadth at the frontal union 5 lines.

"By the side of the nasal bones runs up the ascending *ramus* of the intermaxillary bone, which at its union to the frontal expands considerably, and terminates on an exact level with the nasal. In the *Capybara* the *ramus* is very narrow, and does not ascend quite so high as the nasal: in two skulls of the *Beaver* now before me, I find it ascend 1 line higher than the nasal in the one, and 2 lines lower than the nasal in the other. In *Capromys* it ascends somewhat higher.

"The frontal bones, having a longitudinal suture between them, form an oblong square, occupying a considerable space, their length being 1 inch 5 lines, and their united breadth 1 inch 3 lines. They form above the orbits a bold but level ridge: in the *Capybara* this ridge is arched, rounding the orbit above; in the *Beaver* the ridge is but little prominent; and in the *Water Rat* there is none. It may be added that in the *Beaver* the frontal bone (for here we may speak of it as single) approaches a triangle in its outline, the anterior portion of the parietal bone on each side advancing upon it.

"In the *Coypus* the parietal bones are small, and are depressed on each side posteriorly to form a deep temporal *fossa*, bounded by a ridge (the index of the origin of the temporal muscle), which ridge, with the coronal suture for a base line, forms a triangle ending in a slight short sagittal crest. The parietal bones are nearly consolidated together, and doubtless become ultimately completely so; it is only for a short space from the coronal suture that in the present skull any trace of a sagittal suture is visible. In the *Capybara* the union is complete; but in the *Beaver* the sagittal suture continues unobliterated, and the parietal bones moreover are separated posteriorly by a large interparietal or *os triquetrum*. In the *Water Rat* there is an oblong post-parietal bone.

"The occipital bone is narrower than in the *Beaver*, and more nearly resembles that of the *Capybara*; it rises, however, immediately behind the lambdoid suture into a high strong transverse crest, which sweeps down on each side, and is continued in two strong processes, the outer and shorter of which passes just behind the auditory *foramen*, while the interior process has its base between the former and the condyle, abuts upon the posterior part of the tympanic *bulla*, and passing obliquely outwards and downwards ends in a broad lunar-shaped termination: its length is 1 inch 2 lines. The *foramen magnum* is nearly circular: in the *Beaver* it is compressed horizontally: in the *Capybara* laterally. The cuneiform process is flat with a slight mesial spine: in the *Capybara* it is convex: in the *Beaver* hollowed out like a box. The condyles resemble those of the *Capybara,* but advance somewhat more forwards.

"The squamous portion of the temporal bone, which, as is usual in these animals, is separated by a permanent suture from the petrous, consists of a narrow strip, advancing from the base of the occipital ridge, and then spreading to form the posterior margin of the orbit; a bold process backing the posterior angle of the superciliary ridge. The zygomatic process of the temporal bone resembles that of the *Beaver* more nearly than that of the *Capybara* or of the *Capromys,* but turns up at its extremity in a more decided hook. The petrous portion is small, and, with the exception of the ridge round the auditory *foramen,* consists of little besides the tympanic *bulla,* which in the *Beaver* is externally divided by a strong ridge.

"The malar bone is elongated and narrow, but, as in *Capromys* also, it does not advance forwards along the zygomatic process of the maxillary bone as in the *Beaver,* the suture being just behind the great suborbital *foramen.* In the *Capybara* the malar bone does not advance so far. The large *foramen* alluded to is formed by two branch-like processes of the maxillary bone, the upper one of which arises just below the union of this bone to the frontal, and, bending down, forms the anterior margin of the orbit; the other branch arises just over the root of the first molar tooth, and advancing outwards and backwards joins the other branch to form the boundary of the *foramen,* which is a triangular aperture leading at once to the orbit. In the *Beaver* the suborbital *foramen* is very small. In the *Water Rat* it is somewhat larger than in the *Beaver.* In *Capromys* it is as open as in the *Coypus.*

"The lachrymal bone, which in the *Capybara* spreads largely in a triangle without the orbit at the interior inferior angle, is in the *Coypus* very small and altogether within the orbit.

"On turning to the base of the skull we may observe that the internal pterygoid processes, (which in the *Capybara* are very small, but both in the *Beaver* and *Water Rat* largely developed, being in the former of a hook-like figure and touching with their *apex* the anterior point of the tympanic *bulla,*) are here moderate and bent back, their points being on a level with the spheno-temporal fissure. The *glenoid cavity,* which the malar bone contributes to form, resembles that of the *Beaver.*

"The palate bones, which in the *Beaver* begin in a point opposite to the posterior edge of the first molar, here begin opposite the posterior edge of the third molar; but they advance further backwards so as to throw the pterygoid processes to a considerable distance from the last molar tooth: in which circumstances the *Coypus* differs both from the *Beaver* and the *Capybara,* and more nearly agrees with *Capromys,* where the palate bones commence opposite the middle of the second molar, but do not advance so far backwards.

"The lower jaw of the *Coypus* is very remarkable; it seems as if it had been horizontally compressed, so as to throw the broad part of each *ramus* outwardly into a semilunar shelf. The fact is that this part must be regarded not as the body but as a process of the *ramus* which exists also, but in a more moderate degree, in *Capromys*; in the *Capybara* we see indications of a similar structure. An immense space is here afforded for the insertion of the temporal and masseter muscles: these muscles may be short, but their strength will be prodigious. In the *Beaver* the coronoid processes are long and rise above the condyles: in the *Capybara* they are short and on a level with the condyloid processes, which are themselves very contracted: in *Capromys* they are very small: but in the *Coypus* the coronoid processes are reduced to a mere rudiment, elevated by the side of the last molar tooth. On the contrary the posterior angle here stretches back in a flat narrow process continued from the lateral shelf, or, as we may term it, horizontal reflexion of the lower margin of the *ramus*.

"The dentition of the *Coypus* is figured by M. F. Cuvier in his work 'Sur les Dents des Mammifères.' It differs widely from that of *Hydromys*, with which the animal was associated generically by M. Geoffroy St. Hilaire. Cuvier observes, that the skull of the *Coypus* has a resemblance to that of *Hystrix dorsata*: I have not seen a skull of this animal and therefore cannot judge, but certainly the teeth as given by M. F. Cuvier and those of the *Coypus* materially differ. The molars in the *Coypus* are four on each side above and below. In the upper jaw they have an outward inclination; the last is the largest, and they decrease in size slightly but regularly from the last to the first: each is a copy of the other; and the ribbands of enamel are oblique. The molars of the lower jaw incline obliquely inwards, and decrease in size from the last to the anterior. The *incisores* are large and strong and of a deep orange yellow on their outer surface; the *alveoli* of those of the upper jaw pass through the intermaxillary into the true maxillary bones. In the lower jaw they extend beneath the whole row of the *molares*.

"Of the rest of the skeleton, the trunk, clavicles, *scapulæ, humeri*, and femoral bones are all that I have been able to examine, the rest being contained within the mounted specimen.

"The *scapula* agrees closely with that of *Capromys*, but differs considerably in shape from that of the *Beaver*. Its anterior edge runs out into an angle, at a greater comparative distance from the spinous ridge than either in the *Beaver* or the *Porcupine*; and the same may be said of the posterior angle: so that the total breadth of this bone is comparatively greater than it is in those two animals. Its length from the glenoid cavity to the posterior angle is 2¼ inches. Its breadth from this angle to the opposite 2. The spinous ridge is thin and but little elevated; about the middle it is slightly dilated. Three quarters of an inch before it reaches the level of the glenoid cavity it ceases; the *acromion* process being here united to it by cartilage in the specimen belonging to the Society. I find, however, that this cartilaginous union at some period of the animal's existence becomes ossified; for in a clavicle belonging to Mr. Blackett the *acromion* is completely anchylosed to the extremity of the spine. This process is at first slender, but it spreads at its termination into a broad triangular base, to the anterior *apex* of which is attached the clavicle. The length of this process is 1 inch, and it advances ½ an inch beyond the glenoid cavity.

"The clavicle is slender, 1 inch 5 lines long, with a slight sigmoid flexure.

"The *humerus* presents nothing very remarkable; its length is 1¾ inch.

"The *pelvis* is long and narrow; its breadth from point to point is 3¼ inches; its length, 5 inches; the depth of the *symphysis pubis*, 1½ inch.

"The *femur* is thin and small, and has both a *trochanter major* and a *trochanter minor*.

"In the motions of the hinder limbs of the *Coypus* when alive I observed not only an awkwardness, but a want of firmness, which gave something of a crawling character to the progression of the animal on the floor. A recollection of this circumstance, which struck me when I first saw the animal, led me to open the capsule of the hip-joint with care: on doing this, I was surprised to see no *ligamentum teres*: on opening the other, still none appeared. I am convinced that I did not destroy or rupture the ligament, for no ruptured fibres were at all visible, and on opening the *acetabula* of other animals at the same time, the ligament was found strong and large; in this, however, nothing of the kind was visible. There is on the head of the *femur* a very slight depression, but it is covered, as the rest of the head, with smooth cartilage. I believe, therefore, that the *Coypus* may be added to the list of the few *Mammalia* in which this ligament is absent: but it would be desirable that another specimen should be examined before this peculiarity is insisted on as an ascertained fact.

"The ribs are short, thin and flexible, the longest measuring only 3 inches exclusive of the cartilage; the first two are very short, but strong. The chest of the *Coypus* is, in fact, of very small capacity. The number of the ribs is thirteen.

"The spinous process of the first dorsal *vertebra* is very short, like those of the cervical *vertebræ*; but that of the second rises abruptly to the length of 1 inch, which is at least a quarter higher than those of the succeeding *vertebræ*.

"The number of the *vertebræ* is as follows:—

Cervical	7
Dorsal..............	13
Lumbar	6
Sacral..............	4
Caudal	23

"I regret that I was unable to examine all the bones of the extremities, as Cuvier notices a peculiarity in those of the *carpus*,—in there being no separation between the *os magnum* and *trapezoïdes*."

Mr. Christy subsequently exhibited several skins of the *Coypus*, for the purpose of directing the attention of the Meeting to the position of the *mammæ* in the female, which are situated extremely high up the sides.

November 24, 1835.

Richard Owen, Esq., in the Chair.

Mr. Yarrell exhibited a specimen of the *Syngnathus Acus*, Linn., with the view of again calling the attention of the Society to the fact that the males in this species of *Pipe-fish* are furnished with a pouch under the tail, in which they bear about with them the *ova* until the young have escaped from the capsule; and which probably serves also as a place of shelter to which the young can, for some time after their exclusion, retreat in case of danger. In this individual the opened *abdomen* exhibited the preparatory organs of the male; and the displayed subcaudal pouch showed many eggs contained in it, the young of which were fully developed and ready to escape from the capsules, while from others the young had actually escaped. As a guide to those observers who may be desirous of procuring specimens equally illustrative of the peculiarity of this fish, Mr. Yarrell mentioned that the individual exhibited was obtained on the 20th of July.

Mr. Yarrell read some "Notes on the Economy of an Insect destructive to Turnips"; which he prefaced by adverting to the importance to agriculture of an attentive collection of those entomological facts which relate to species injurious to the ordinary crops of the farmer. He then proceeded to remark that the turnip crop is in this country usually infested in every season by two species of *Haltica*; and that another destroyer has been, in the dry summer of this year, superadded to them, especially on the light and chalky soils. To the history of this latter pest, which has been known to occur in those seasons only in which there has been an almost total absence of rain, Mr. Yarrell's paper is directed. A good account of a similar visitation in 1782, as it was observed in Norfolk by Mr. William Marshall, was published in the 'Philosophical Transactions' for the following year.

Early in July last the "yellow fly" was seen upon the young turnips. It was remembered by some farmers that this was the fly which prevailed in the year 1818, and which was followed by the caterpillars known by the name of the blacks. The eggs being deposited by the perfect insect in the leaf of the plant, the black caterpillar or turnip-pest speedily makes its appearance, feeding on the soft portions of the leaves of the turnips and leaving the fibres untouched; and finally, casting its black skin and assuming one of a more slaty or grey colour, it buries itself in the earth. Lodged there, it forms for itself, from the soil, a strong oval cocoon; from which some of the earlier broods pass almost immediately into the perfect state, filled with *ova*, and ready quickly to supply another generation of destroyers. So complete and so rapid was the destruction in some instances, that a whole field was found, in two or three days, to present only an assemblage of skeletonized leaves; and this too when the turnips had attained a considerable size.

The insect whose proceedings have been thus briefly noticed, belongs to the *Hymenopterous* family *Tenthredinidæ*; it is the *Athalia Centifoliæ,* a species first noticed by Panzer. Mr. Yarrell describes the perfect insect and the caterpillar; and then recurs to the damage effected by the latter. By their repeated broods the devastation was continued for so long a time that even the third sowing did not in all cases escape destruction; and it was not until the occurrence of the heavy rains in September, terminating the unusually dry summer, that the mischief ceased. The destruction of the leaves caused, in most instances, the loss of the root also; and where the leaves suffered from the attacks of the black caterpillar, but not sufficiently to occasion the death of the plant, the turnip itself became pithy and of little value. It has become necessary, Mr. Yarrell states, to import the root largely from the Continent to supply the deficiency of the home crop.

The remedial measures adopted on a former visitation were the turning into the infested fields of a large number of ducks, who greedily devoured the caterpillars as they were brushed from the leaves by a boy with a long pole; the passing of a heavy roller over the ground at night, when the caterpillars were at their feed; and the strewing of quick lime by broad cast over the fields, renewing it as often as it was dispersed by the wind. The latter mode was generally considered as the most effectual preservative.

December 8, 1835.

William Yarrell, Esq., in the Chair.

Specimens were exhibited of various *Birds*, chiefly from the Society's collection, which Mr. Gould regarded as hitherto undescribed. At the request of the Chairman he pointed out the distinguishing peculiarities of the undermentioned species.

Phœnicura plumbea. *Phœn. nigrescenti-cinerea; caudâ tectricibusque superioribus castaneo-rubris; remigibus nigrescenti-brunneis, cærulescenti-griseo fimbriatis.*

Fœm. *Suprà brunnescenti-cinerea, uropygio albo; rectricibus duabus intermediis brunneis, basin versus albis reliquis ad apicem brunneis; pectore cinereo, plumis singulis lunulis alternatim brunneis albidisque notatis; remigibus brunneis; secundariis cinereo-brunneis maculâ parvâ albâ ad apicem notatis.*

Long tot. 5¼ poll.; *alæ*, 3; *caudæ*, 2; *tarsi*, ⅞; *rostri*, ⅜.

Hab. apud montes Himalayenses.

This bird is in every respect a typical example of the genus *Phœnicura*. It is rather less in size than *Phœn. Ruticilla*, Swains.

Pyrgita cinnamomea. *Pyrg. suprà cinnamomea, dorso in medio nigro longitudinaliter maculato; alis caudâque brunneis, illis albo prope scapulam unifasciatis; gulâ nigrâ; genis, colli lateribus, corporeque subtùs cinerascenti-albidis.*

Long. tot. 4¾ poll.; *alæ*, 2¾; *caudæ*, 2; *tarsi*, ⅝.

Rostrum nigrum; *pedes* brunnei.

Hab. apud montes Himalayenses.

Rather less in size than *Pyrg. montana*.

Merula castanea. *Mer. castanea; capite colloque cinereo-albidis, gutture pallidiore; alis caudâque nigris; tectricibus caudæ inferioribus crissoque albis nigro variis.*

Long. tot. 11¼ poll.; *alæ*, 5¾; *caudæ*, 5¼; *tarsi*, 1⅜; *rostri*, 1⅛.

*Rostrum pedes*que flavescenti-brunnei.

Hab. apud montes Himalayenses.

Saurophagus Swainsonii. *Saur. suprà brunnescenti-cinereus; capite nigro, cristâ occultâ aurantiacâ; caudâ nigrescenti-brunneâ, rectricum exteriorum marginibus omniumque apicibus cinereo-albis; alis brunneis, scapularibus secundariisque cinereo-albido marginatis; corpore subtùs albo.*

Long. tot. 8 poll.; *alæ*, 4; *caudæ*, 3¼: *rostri*, 1¼; *tarsi*, vix 1.

*Rostrum pedes*que nigri.

Hab. in Americâ Australi.

Brachypus gularis. *Brach. flavus, suprà olivaceò tinctus; capite auribusque nigris; caudâ olivaceo-brunneâ; remigibus brunneis.*

Long. tot. 5¼ poll.; *alæ*, 4⅝; *caudæ*, 3½: *rostri*, ⅛; *tarsi*, ⅝.

Rostrum nigrum; *pedes* saturatè brunnei.

Hab. in Indiâ Orientali apud Travancore.

More diminutive in size than *Brach. dispar*, Horsf., but nearly allied to it.

Genus Stenorhynchus.

Rostrum capite longius, gracile, compressum, subfornicatum: mandibulâ superiore leviter emarginatâ, culmine in frontem depressissimum producto.

Nares ovales, apertæ.

Alæ breviusculæ, subrotundatæ; remige 1mâ brevissimâ, 4tâ longiore; 5tâ et 6tâ 4tam subæquantibus.

Cauda mediocris, rotundata; rectricibus decem?

Pedes robusti: *acrotarsiis* subscutellatis; *hallure ungue*que postico fortibus, tarsum longitudine subæquantibus, digito intermedio brevioribus.

Plumæ molles.

Stenorhynchus ruficauda. *Sten. suprà sordidè saturatè brunneus, rufo caudam versus tinctus; caudâ, secundariis, scapularibusque saturatè rufo-brunneis; subtùs brunnescenti-cinereus, in rufo-brunneum ad latera vergens.*

Long. tot. 9½ poll.; *rostri*, 1¾; *alæ*, 4¾; *caudæ*, 3½; *tarsi*, 1.

Rostrum nigrum; *pedes* brunnei.

Hab.

As only one specimen of this bird has yet been seen, it is doubtful whether it may not possess twelve tail-feathers; but, after a careful examination, Mr. Gould can discover no more than ten.

Merula Nestor. *Mer. fuliginoso-nigra; capite colloque sordidè cinereis; caudæ tectricibus inferioribus maculâ longitudinali flavescenti-albidâ notatis.*

Long. tot. 7¾ poll.; *rostri*, 1; *alæ*, 4⅜; *caudæ*, 3; *tarsi*, 1⅛.

*Rostrum tarsi*que flavi.

Hab. in Novâ Cambriâ Australi.

This appears to be in every respect a true *Merula*. It is the first of that genus that has been received from New Holland. It formed part of Captain Sturt's collection made in the Murrumbidgee country.

Ianthocincla pectoralis. *Ianth. ferrugineo-cinerea; capite suprà olivaceo-cinereo; cervice lateribusque ferrugineis; plumis aures tegentibus cinereis, rachibus nigris; lineâ nigrâ a basi mandibulæ inferioris aures cingente cum alterâ pectus lunulatim circumdante conjunctâ; corpore subtùs albo; remigibus brunneis, pogoniis externis cinereis; caudâ rotundatâ, basin versus olivaceo-*

cinereâ, in medio nigro unifasciatâ; rectricibus extimis tribus utrinque albo, cæteris olivaceo-cinereo, apiculatis.
Long. tot. 12½ poll.; *rostri*, 1¼; *alæ*, 5½; *caudæ*, 5¼; *tarsi*, 2.
Rostrum nigrescenti-brunneum; *tarsi* brunnei.
Hab. in Nepaliâ.

IANTHOCINCLA ALBOGULARIS. *Ianth. suprà et ad pectus olivaceo-cinerea, subtùs ferrugineo-aurantiaca; caudâ rotundatâ, olivaceo-cinereâ, rectricibus extimis utrinque quatuor ad apices latè albis.*
Long. tot. 11½ poll.; *rostri*, 1¼; *alæ*, 5¼; *caudæ*, 5½; *tarsi*, 1¼.
*Rostrum tarsi*que brunnei.
Hab. apud montes Himalayenses, in Nepaliâ, &c.
Nearly allied to *Ianth. leucolopha*, (*Corvus leucolophus*, Lath.).

A paper was read, entitled "Mémoire sur une Nouvelle Espèce de Poisson du Genre Histiophore, de la Mer Rouge: par M. E. Rüppell, M.D., Memb. Ext. Z. S." It was accompanied by a drawing of the fish described in it.

MM. Cuvier and Valenciennes have described, in their 'Histoire Naturelle des Poissons,' three species of *Sword-fishes* of the genus *Histiophorus*, from all of which Dr. Rüppell regards his fish as distinct, although it apparently approaches most nearly to *Hist. Americanus*: it should seem that its occurrence at Djetta, on the coast of Arabia, was only accidental, as the Arab fishermen knew no name for it. The most striking peculiarity of the new species is the uniformity of the colour of its dorsal fin: in all those which were previously known the first dorsal fin is varied with spots; in the one obtained by Dr. Rüppell, the first dorsal fin is black throughout and destitute of spots, on which account its discoverer proposes for it the name of

HISTIOPHORUS IMMACULATUS. *Hist. pinnis pectoralibus mediocribus; dorsali nigrâ, immaculatâ.*
D. 47, 0+7. A. 10, 0+7. C. 5+17+5. P. 1+19. V. 3.
Pinnæ pectorales quam in *Hist. Indico*, Cuv. & Val., multo minores: utpote quæ in illo $\frac{1}{6}$ vel $\frac{1}{7}$ corporis longitudine æquant, in *Hist. immaculato* $\frac{1}{13}$ tantum. In *Hist. pulchello* præoperculi angulus spinâ munitus: in *Hist. immaculato* aliisque inermis. *Hist. Americani* pinna dorsalis cinereo-argentea, maculis brunneis rotundatis ornata.

Dr. Rüppell describes the fish in considerable detail. He has not, however, examined it anatomically, on account of his possessing only one specimen, which he had deposited in the Frankfort Museum.

The following notes by Sir Robert Heron, Bart., were read.

"In many books that I have seen some errors are made in the history of the *Kangaroos*, which my long possession of those animals enables me to correct.

"The *great Kangaroo* does not make use of his tail in leaping. He uses it in walking, and still more in standing. When excited, he stands (the male only) on tip-toe and on his tail; and is then of prodigious height. In fighting he does not stand on the tail and one leg, but balances himself for a moment on the tail only, and strikes forward with both hind legs.

"The *bush Kangaroo, or Kanguru enfumé* of Cuvier, never uses his legs in fighting. He generally contents himself with threatening with his teeth and a low growl; but I have seen him, when attacked by an *Emu,* jump up at the bird's head. Neither of them, however, has persevered in annoyance.

"When sitting in a state of repose the *great Kangaroo* throws the tail behind him: the lesser one before him, between his legs."

The following note by Sir Robert Heron, Bart., was also read, as giving an account of an extraordinary instance of want of sagacity in a *Dog.*

"A large old white female terrier followed me this autumn from Grantham. She remained perfectly satisfied for three weeks, when, on my again going to attend the petty sessions, she again followed me. I then found that she belonged to one of my colleagues, the Rev. Mr. Ottley; and that she had long been a great favourite in the family, who were greatly distressed at her loss. It happened that Mr. Ottley and I each rode a chestnut pony with a long tail. This had completely deceived the dog, whose unsentimental friendship did not prompt her to ask any further questions."

December 22, 1836.

E. S. Hardisty, Esq., in the Chair.

Specimens were exhibited of several *Rodent* animals collected during his survey of the Straits of Magalhaens, by Capt. P. P. King, R.N., Corr. Memb. Z. S., and presented by him to the Society. They were accompanied by some notes by Capt. King, which were read.

In bringing the animals severally under the notice of the Meeting, Mr. Bennett first directed particular attention to one of them, which constituted, in his estimation, a new species in the genus *Ctenomys*, Blainv. To elucidate its relations with the nearly allied genera of *Herbivorous Rodentia, Octodon*, Benn., and *Poephagomys*, F. Cuv., a specimen of *Octodon Cumingii* was exhibited and compared with it; and Mr. Bennett stated his intention of entering with some detail into the subject in a paper which he proposed to prepare upon it.

In the structure of its molar teeth, *Octodon* may be regarded as occupying an intermediate station between *Poephagomys* and *Ctenomys*. In *Octodon* the molars of the upper jaw differ remarkably in form from those of the lower. The upper molars have on their inner side a slight fold of enamel, indicating a groove tending in some measure to separate on this aspect the mass of the tooth into two cylinders: on their outer side a similar fold penetrates more deeply, and behind it the crown of the tooth does not project outwardly to so great an extent as it does in front. If each molar tooth of the upper jaw be regarded as composed of two partially united cylinders, slightly compressed from before backwards, and somewhat oblique in their direction, the anterior of these cylinders might be described as entire, and the posterior as being truncated by the removal of its outer half. Of such teeth there are, in the upper jaw of *Octodon*, on each side, four; the hindermost being the smallest, and that in which the peculiar form is least strongly marked. In *Ctenomys*, all the molar teeth, both of the upper and the lower jaw, correspond with the structure that exists in the upper jaw of *Octodon*, excepting that their crowns are slenderer and more obliquely placed, whence the external emargination becomes less sharply defined; and also excepting that the hinder molar in each jaw is so small as to be almost evanescent: as is generally the case, however, the relative position of the teeth is counterchanged, and the deficiency in the outline of the crown of the tooth, which in the upper jaw is external, is, in the lower jaw, internal. In the lower jaw of *Octodon* the crowns of the molars assume a figure very different from those of the upper, dependent chiefly on the prolongation of the hinder portion of the tooth to the same lateral extent as its anterior part: each of them consists of two cylinders, not disjoined in the middle where the bony portion of the crown is continuous, but partially separated by a fold of enamel on either side producing a corresponding notch; placed obliquely with respect to the jaw they resemble, in some measure, a figure of 8 with its elements flattened obliquely, pressed towards each other, and not connected by the transverse middle bars. With the lower molars of *Octodon* those of *Poephagomys*, as figured by M. F. Cuvier, correspond in structure in both jaws. *Octodon* thus exhibits, in its dissimilar molars, the types of two genera: the molars of its upper jaw represent those of both jaws of *Ctenomys*; those of its lower jaw correspond with the molars of both jaws of *Poephagomys*.

The characters distinguishing the new species of *Ctenomys* are chiefly those of colour. The *Cten. Brasiliensis* is described by M. de Blainville as being shining rufous above, and reddish white below. The new species may be characterized as the

CTENOMYS MAGELLANICUS. *Cten. flavescenti-fusco-griseus, subtùs pallidior; pedibus caudâque albescentibus.*

Long. corporis cum capite 7½ unc.; *caudæ*, 2¾; *capitis*, 2.

Hab. apud Portum Gregory dictum, ad Fretûs Magellanici ostium orientale.

Captain King states that this "little animal is very timid; feeds upon grass; and is eaten by the Patagonian Indians. It inhabits holes, which it burrows, in the ground: and, from the number of the holes, it would appear to be very abundant."

A second animal exhibited appears, like the preceding, to represent in the more southern latitudes of South America a genus whose type was originally observed in Brasil. Mr. Bennett regarded it as a second species of *Kerodon*, F. Cuv., chiefly distinguishable from the one discovered by Prince Maximilian of Wied by its more uniform colour. Excepting a slight dash of white behind the ear, and a longer line of the same colour marking the edge of each branch of the lower jaw, the animal is entirely grey; the upper surface being distinguished from the under by a greater depth of tint, and by the intermixture of a free grizzling of yellow and black. The crowns of the molar teeth, as in the typical species, consist of bone surrounded by two triangles of enamel, the bases of which are connected together by a short line of enamel passing from the one to the other: all the lines being slender and sharply defined.

For this species Mr. Bennett proposed the name of

KERODON KINGII. *Ker. griseus, suprà flavo nigroque punctulatim interstictus; maculâ pone aures lineâque ad maxillæ inferioris marginem albis.*

Long. corporis cum capite 9¼ unc.; *capitis*, 2¼; *auricula* subnulla.

Hab. apud Portum Desire dictum, ad Patagoniæ littus orientale.

The third animal exhibited was remarked on as constituting a new species of *Cavy*, distinct from all those that were previously known, including the two which have recently been described by M. Brandt in the 'Nouveaux Mémoires de l'Académie Impériale de St. Petersbourg.' Mr. Bennett characterized it as the

Cavia Cutleri, King MSS. *Cav. brunnescenti-nigra; subcristata; genis in medio nudiusculis.*

Long. tot. 10 unc.; *capitis*, 3.

The general form of the animal is probably similar to that of the *restless Cavy, Cavia Cobaya*, Gmel., popularly known as the Guinea-pig. It is covered universally by long, smooth, glossy, black hairs, which are slightly tinged with brown. Its ears are rather large, broadly expanded, and hairy; and between them the hairs are longer than those on the adjoining parts, occasioning a slight appearance of a crest. On the middle of each cheek the hairs radiate as from a centre, almost in a similar manner to that in which they spread from around the crown of the *bonneted Monkeys*, and the skin is consequently left in the middle point almost bare. The dentition is altogether that of the *restless Cavy*, and the incisors, as in it, are white. The skull is rather more expanded laterally, which gives to it an appearance of comparative flatness.

"This animal was known, on the survey, by the name of the *Peruvian Cavy*. The specimen in the Society's collection was presented to one of the officers of the Beagle by an American sailing-master, of Stonington, U.S., a very intelligent person, to whom we were much indebted. The trivial name which I have proposed for it is in recollection of the benefit we derived from his experience and knowledge of the intricate navigation of the south-western coast of Patagonia, which was freely imparted to us on several occasions."—P. P. K.

The collection also contained specimens of a *Mouse*, for which Mr. Bennett proposed the name of

Mus Magellanicus. *Mus caudâ corpus caputque longitudine æquante; suprà saturatè subflavicanti-fuscus; subtùs albidus; pedibus albis.*

Long. corporis cum capite 4¼; *caudæ* longitudo eadem; *pedis postici*, 1.

Hab. apud Portum Famine dictum, in Fretu Magellanico.

The ears are of moderate size, rounded, and hairy.

Specimens were exhibited of several *Marsupialia*, on which Mr. Ogilby made the following remarks.

"A small collection of *Marsupial Quadrupeds*, which Mr. Gould lately received from his brother-in-law, Mr. Coxen, contains two or three interesting species, which the usual kindness of Mr. Gould enables me to notice. They were all procured, as I am informed, in the country beyond the Hunter River, about eighty miles north of Sydney in New South Wales. The most remarkable is an undescribed species of *Phalanger*, which I propose to call

Phalangista Canina. It is similar in size and general proportions to *Phal. Vulpina*, and the two allied species described in the 'Proceedings' for 1830–31, (page 135,) but is easily distinguished from them all by the small size and round form of the ears, as well as by the distribution of the colours. All the upper parts of the body, the head, cheeks, back, sides, and outer face of the arms and thighs are of a uniform grizzled brown; the throat, breast, belly, and interior of the members dirty ashy grey with a slight shade of yellow. The ears are only an inch in length and about the same in breadth, being thus little more than half as long as in *Phal. Vulpina*. They are naked within, but covered with deep coffee-coloured fur on the outside; the nose, and the paws, both before and behind, are dark brown; and the tail is bushy and entirely black to within about 2 inches of its root, which is of the same colour as the back. All these circumstances distinguish the present species from *Phal. Vulpina*, with which alone it can possibly be confounded, and in which the backs of the ears, and the cheeks and paws are yellowish white, whilst the black colour occupies only the latter half of the tail. Both these animals have long black *vibrissæ*, and a tuft of similar stiff hair on the cheek, about an inch below and behind the eye. The whole length from the nose to the root of the tail is 2 feet; the length of the tail 13½ inches.

Phal. Cookii. I notice this species merely to observe that the present specimen is the only certain evidence we possess of this animal being an inhabitant of Continental Australia. Cook observed it in Van Diemen's Land, and I had never been able to ascertain the precise locality from which the various other individuals I had formerly examined, were obtained.

Macropus Eugenii. This specimen agrees with M. Desmarest's description, and is interesting as coming from a very distant part of the country.

Perameles obesula. An adult specimen of the same size as the full-grown *Per. nasuta*. I notice it to mention that the teeth are, in all respects, similar to those of *Per. nasuta*, both in form and number.

The collection contains besides, two very fine specimens of *Petaurus Taguanoides*; one of *Pet. Sciureus*; one of *Hydromys chrysogaster*; and a young *Koala*."—W. O.

Specimens were exhibited of numerous *Shells* of the genus *Mitra*, Lam., and of one species of *Conoelix*, Swains., forming part of the collection of Mr. Cuming; and the following account of them by Mr. Broderip was read.

"The species of the genus *Mitra*, Lam., which I am about to describe had been sent by Mr. Cuming, in whose cabinet they are, to Mr. Swainson, whose intimate acquaintance with this family renders him so particularly competent to the task of describing them. They were named by him, and he also made notes respecting them before returning them. In the following account of them I have retained Mr. Swainson's name in every instance but one: and whenever he has made any written observations I have quoted them.

Genus Mitra, (*Lam.* & *Swains.*).

Mitra nebulosa. *Mitra testâ turritâ, striis impressis cinctâ, pallidè flavâ maculis castaneo-fuscis pictâ; columellâ obsoletè sexplicatâ: long.* $1\frac{3}{8}$ *poll., lat.* $3\frac{1}{2}$ *poll.*

Hab. ad Insulam Annaan.

Mr. Cuming found this species on the reefs at low water.

Mr. Swainson, whose name is retained, has the following observation: " representing *nubila.*" "Type 5, 1."

Mitra Swainsonii. *Mitra testâ turritâ, valdè productâ, lævigatâ, pallidè carneâ, apicem versus pallidè brunneâ, striis transversis cinctâ; columellâ quadriplicatâ: long.* 6, *lat.* 1. *poll.*

Hab. ad Colombiam Occidentalem. (Monte Christi.)

Dredged up from sandy mud by Mr. Cuming in seven fathoms water.

This shell has been much exposed, and its colour is faded.

The following remark appears on the cover: "Type 1, 1."

Mitra Ancillides. *Mitra testâ turritâ, minutisimè transversim striatâ, totâ pallidè flavâ; columellâ quinqueplicatâ: long.* 5, *lat.* 2 *poll.*

Hab. ad Insulam Annaan.

Found on the reefs.

The following remark appears on the cover: "Type 5, (2 ?)."

Mitra maura. *Mitra testâ turritâ, transversim minutè striatâ, anfractibus torosis, totâ nigricante; columellâ albâ, quadriplicatâ; aperturâ hiante: long.* $2\frac{1}{2}$, *lat.* $\frac{7}{8}$ *poll.*

Hab. ad Peruviam. (Iquiqui.)

Found in the fissures of rocks, buried in sand, at low water mark.

On the cover is the following observation: " representing *Tiara foraminata,* Type 1, 4."

The older shells are eroded, especially towards the *apex,* like some of the freshwater turbinated shells.

Mitra fulvescens. *Mitra testâ ovato-elongatâ, fulvâ, striis altis cinctâ; columellâ sexplicatâ: long.* $\frac{7}{8}$, *lat.* $\frac{3}{10}$ *poll.*

Hab. ad Insulam Annaan.

Found on the reefs.

On the wrapper is the following observation: "Type 5, 1."

Mitra testacea. *Mitra testâ turritâ, acuminatâ, rubro-lutescente, transversim striatâ; columellâ quinqueplicatâ: long.* $1\frac{1}{8}$, *lat.* $\frac{3}{8}$ *poll.*

Hab. ad Insulam Annaan.

Found on the reefs.

Mr. Swainson has the following observation on the wrapper: "Type 5, 1. representing *fulva.*"

Mitra fulva, var. *Mitra testâ turritâ, fulvâ, striis transversis punctatis cinctâ; suturâ crenulatâ; columellâ sexplicatâ; labro crenulato.*

Hab. ad Insulam Annaan.

Found on the reefs in shallow water.

The following observation appears on the wrapper: "Type 1, 2. representing *Tiara.*"

Mitra chrysostoma. *Mitra testá ovato-acuminatá, striis magnis subcrenulatis cinctá, flavescente castaneo maculatá, maculis magnis; columellá sexplicatá; labro subrubro-aureo, externè subcrenulato: long.* $1\frac{3}{8}$?, *lat.* $\frac{1}{2}$ *poll.*

Hab. ad Insulam Annaan.

Found on the reefs in shallow water.

On the cover is written, "Type 5, 1. representing *ferruginea.*"

Mitra tristis. *Mitra testá turritá, suturis rotundatá, striis transversis cinctá, longitudinaliter costatá, atro-fuscá, suturis pallidè fasciatá; columellá quadriplicatá, plicis maximis; aperturá (in adultis) albido-purpurascente: long.* $1\frac{1}{4}$, *lat.* $\frac{1}{2}$ *poll.*

Hab. ad Sanctam Elenam et ad Insulas Gallapagos dictas.

Found in sandy mud at a depth of from six to ten fathoms.

On the cover, "Type 2, 4."

Mitra effusa. *Mitra testá fusiformi, transversim valdè striatá, striis intermediis minimis; totá fuscá vel atro-castaneá; columellá quadriplicatá, plicis duabus superioribus magnis; labro crenulato: long.* $1\frac{3}{8}$, *lat.* $\frac{7}{16}$ *poll.*

Hab. in Americâ Centrali (Guacomayo) et ad Insulas Gallapagos dictas.

Found in sandy mud at the depth of twelve fathoms.

On the cover, "Type 1, 5."

Genus Tiara, *Swains.* (Mitra, *Lam.*)

Tiara foraminata. *Tiara testá turritá, longitudinaliter costatá, striis distantibus impressis inter costas hinc et hinc quasi foraminatis, costis magnis, sordidè fuscá, suturis rotundatá; columellá quadriplicatá, plicis maximis; aperturá sordidè albido-purpurascente: long.* $2\frac{3}{8}$, *lat.* $\frac{7}{8}$ *poll.*

Hab. ad Sanctam Elenam, ad Insulam Platam dictam, et ad Panamam.

Dredged up from sandy mud and gravel at a depth ranging from six to fourteen fathoms.

This appears to have been published in Mr. Wood's 'Supplement' under the name of *Voluta Lens.*

On the cover, "representing *Mitra maura,* Type 2, 4."

Tiara muricata. *Tiara testá longitudinaliter costatá, transversim striatá, costis submuricatis, totá brunneá; columellá triplicatá: long.* $\frac{5}{8}$, *lat.* $\frac{3}{8}$ *poll.*

Hab. ad Insulas Gallapagos dictas.

Dredged up from sandy mud at a depth of six fathoms.

TIARA MUCRONATA. *Tiara testâ longitudinaliter costatâ, transversim striatâ, striis sub-punctatis, anfractibus noduloso-muricatis præcipuè suturam versus, albidâ fusco vel ferrugineo fasciatâ, fasciâ basali latissimâ; columellâ quadriplicatâ: long.* 1, *lat.* ⅜ *poll.*
Hab. ad Insulam Taheiten.
Found in soft muddy sand at low water within the reef.

TIARA CATENATA. *Tiara testâ ovatâ, longitudinaliter costatâ, albidâ suturam versus punctis sanguineis fasciatim dispositis concinnâ, apice subviolaceo, anfractu basali bifasciato, fasciis fusco-castaneis; columellâ quadriplicatâ: long.* ⅝, *lat.* 3/10 *poll.*
Hab. ad Insulam Annaan.
Found on the reefs in shallow water.
On the paper, "Type 1, 3."

TIARA MULTICOSTATA. *Tiara testâ longitudinaliter multicostatâ, transversim substriatâ, brunneâ vel ferrugineâ albo fasciatâ; columellâ quadriplicatâ: long.* ⅞, *lat.* ⅜ *poll.*
Hab. ad Insulam Annaan.
Found on the reefs in shallow water.
In the ferruginous individuals the white band is nearly obsolete, and would almost justify their separation as a variety: but such individuals of that colour as have been submitted to me appear to be young.

TIARA ROSEA. *Tiara testâ multicostatâ, costis posticè subtuberculosis, creberrimè transversim sulcatâ, roseâ albo fasciatâ, columellâ quadriplicatâ: long.* ½, *lat.* ⅜ *poll.*
Hab. ad Insulas Lord Hood's dictas.
Found on the reefs in shallow water.
On the paper, "Type 1, 2."

TIARA MILLECOSTATA. *Tiara testâ subovatâ, longitudinaliter creberrimè costatâ, basi cancellatâ, nigro-castaneâ, apice albido; columellâ triplicatâ: long.* ½, *lat.* ⅜ *poll.*
Hab. ad Insulam Annaan.
Found on the reefs in shallow water.
The close-set longitudinal ribs and cancellated base give this shell, which may not have attained its full growth, the aspect of a *Cancellaria.*

TIARA LINEATA. *Tiara testâ fusiformi, albidâ hinc et hinc castaneo strigatâ, lineis elevatis castaneis cinctâ; columellâ triplicatâ; epidermide valdè tenui: long.* 1, *lat.* ⅜ *poll.*
Hab. ad Salango Colombiæ Occidentalis.
Found on sandy mud in ten fathoms water.
The elevated lines run from the *apex* to the base like the threads of a screw.
On the paper, "Type 5, 1."

TIARA NIVEA. *Tiara testâ fusiformi, albâ, lineis creberrimis sub-*

punctatis transversis insculptâ; columellâ quinqueplicatâ : long. 2$\frac{1}{8}$, lat. $\frac{7}{12}$ poll.

Hab. ad Insulam Annaan.

Found on the reefs.

Minute longitudinal lines cross the transverse thick-set punctated ones, and with the punctures produce a somewhat cancellated appearance, which may be also detected by the touch.

The base of the *columella* is strongly developed, milk white, and shining, reminding the observer of the same part in *Ancillaria.*

On the paper, "Type 5, 3."

Tiara aurantia. *Tiara testâ turritâ, costis longitudinalibus striisque elevatis transversis subnodulosâ, aurantiacâ albo fasciatâ; columellâ quadriplicatâ : long.* 1$\frac{1}{8}$, *lat.* $\frac{5}{12}$ *poll.*

Hab. cum præcedente.

Tiara Terebralis. *Tiara testâ fusiformi-turritâ, acuminatâ, carneâ aurantiaco nebulosâ; anfractibus* 11 *seu* 12, *lævibus, nitidis, longitudinaliter crebrè sulcatis, sulcis profundè impressis et lineis impressis spiralibus decussatis ; aperturâ brevi, angustâ, labio externo margine crenulato; columellâ quadriplicatâ : long.* 1·85, *lat.* 0·45 *poll.*

Hab. ad Insulam Annaan.

Found on the reefs.

Mr. Swainson has written on the paper containing it, "Type 4, 4. This is one of the most extraordinary shells in the collection, as it so closely resembles the *Mitra Terebralis* that, but for its possessing the generic characters of *Tiara,* it might pass for the same species."

It is one of the most slender of its genus, and has very much of the general character and form of a *Terebra*; and its resemblance to *Terebra* is increased by the circumstance of its having one spiral groove, more deeply impressed than the others, placed at about one third of the length of each volution before the suture. The points of contact of the decussating with the longitudinal grooves are deeply impressed.

There is a fine specimen in Mr. Broderip's collection.

Mr. Sowerby has furnished me with the account of this species.

Tiara crenata. *Tiara testâ fuscâ, lineis subelevatis cinctâ; columellâ triplicatâ : long.* $\frac{5}{12}$, *lat.* $\frac{2}{12}$ *poll.*

Hab. ad Xipixapi Colombiæ Occidentalis.

Found on sandy mud in six fathoms water.

On the paper, "Type 5, 3. or 3, 3."

Tiara rubra. *Tiara testâ minutâ, longitudinaliter costatâ, transversim minutissimè striatâ, rubrâ albo fasciatâ; canali subreflexo, columellâ quadriplicatâ : long.* $\frac{3}{12}$, *lat.* $\frac{1}{8}$ *poll.*

Hab. ad Insulam Lord Hood's dictam.

Found on *Meleagrina margaritifera.*

On the paper, "Type 1, 2."

Tiara semiplicata. *Tiara testâ ovato-fusiformi, glabrâ, longitudinaliter plicatâ, basi transversim striatâ, castaneâ, anfractibus spiræ basi albo fasciatâ, anfractu basali fasciâ submediâ albâ cincto; columellâ quadriplicatâ: long.* $1\frac{1}{2}$, *lat.* $\frac{3}{10}$ *poll.*

Hab. ad Insulam Rieteam.

Found on the reefs.

The basal whorl is only plaited on a comparatively small portion of its circumference, but this is evidently the result of malformation in the only specimen submitted to me.

Tiara attenuata. *Tiara testâ fusiformi, attenuatâ, fuscâ, lineis valdè elevatis distantibus cinctâ; columellâ triplicatâ; aperturâ albidâ, glabrâ: long.* $1\frac{1}{2}$, *lat.* $\frac{3}{8}$ *poll.*

Hab. ad Insulam Cañam Americæ Centralis.

Found on a rocky bottom at the depth of twenty-eight fathoms.

Approaching *Tiara lineata*, but differing from it. The basal whorl of *Tiara attenuata* is longer in proportion than that of *Tiara lineata*, and the elevated line on the angular shoulder of each whorl in the former is larger than the others.

On the paper, "Type 5, 1."

Genus Conoelix, *Swains.*

Conoelix Virgo. *Con. testâ conicâ, crassâ, spirâ depressâ, lineis transversis subpunctatis insculptâ, albidâ, columellæ basi nigro-purpureâ; epidermide subfuscâ, tenuissimâ: long.* $\frac{9}{10}$, *lat.* $\frac{6}{10}$ *poll.*

Hab. ad Insulam Rieteam.

Found on the reefs in shallow water.

On the paper, "representing *Conus* Virgo."—W. J. B.

The following observations by Mr. Swainson elucidate his notes in relation to the *Mitres*, appended to most of the preceding characters:—

"To render my explanation of the notes and references attached to the different species of the *Mitranæ* more intelligible to conchologists, it will be necessary for me to state, in as few words as possible, the result of my investigation of this subfamily, and the principles which have regulated these numerical indications.

"I have already, in another work, characterized the family *Volutidæ*, which appears to be that primary division of the *Carnivorous Gasteropoda* (*Zoophaga*, Lam.), which represents the *Rasorial* type among *Birds*, the *Ungulata* among *Quadrupeds*, and the *Thysanura* among perfect *Insects* (*Ptilota*): these analogies being of course remote, although founded on the structure of the animal, no less than on its testaceous covering. It thus follows that the Lamarckian *Mitræ*, instead of a genus, constitute a subfamily, which appears to be the subtypical group of the circle. The five genera composing this circle I have long ago characterized; and here, for some years, my analysis of the group terminated. The inspection, however, of the numerous species brought home by Mr. Cuming, and the gradually augmented number in my own cabinet, seemed to invite a still further and more minute investigation, for the purpose of ascertaining if any, and what, subgenera were contained in the more crowded groups of *Mitra* and *Tiara*. This investigation was carried on, at intervals, for nearly twelve months; and the result surpassed my most sanguine expectations. It has convinced me that not only does each of the genera of the *Mitranæ* represent analogically the corresponding groups of the *Volutinæ*, but that the same relations can be demonstrated between the minor divisions of the genera *Tiara* and those of *Mitra*: in other words, that these latter represent all the subfamilies and genera of the other *Volutidæ*, while they preserve their own peculiar or generic character. What I have just said on the parallel relations of analogy between the *Mitranæ* and the *Volutidæ*, is strictly applicable, in fact, to the genera *Mitra* and *Tiara*, the primary divisions of each of which can thus be demonstrated subgenera. Nor is this all: the materials I have been for so many years collecting have enabled me to ascertain, in very many instances, that the variation of the species, in each of these subgenera, is regulated on precisely the same principle. Hence it follows that the two circles of *Mitra* and *Tiara*, like the two divisions of Mr. MacLeay's *Petalocera*, contain species representing each other, so that if their generic character is not attended to, it is almost impossible to discriminate them even as species. Many instances of this extraordinary analogy might be mentioned, independent of that here alluded to, between *Mitra Terebralis* and *Tiara Terebralis*.

" Selecting this shell to illustrate the numbers " Type 4, 4", I may observe, that 'Type 4' signifies that it belongs to the fourth subgenus of *Tiara*, in which group it is the fourth subtype, uniting to *Mitra maura*, which is the fourth subtype of the first or typical subgenus. *Mitra maura*, again, as representing this latter shell, consequently becomes the fourth subtype of the first or typical subgenus, and is therefore marked " Type 1, 4." The first figure always denotes the subgenus, and the last the station which the species appears to hold in its own subgenus.

" I am unacquainted with any group in the animal kingdom which demonstrates more fully than this does the law of representation. It may be mentioned, also, that nearly all the divisions I had long ago characterized, from the formation of the shells alone, have more recently been confirmed by a knowledge of their respective animals: a knowledge for which we are entirely indebted to the able naturalists who accompanied the French expedition on board the Astrolabe."—W. S.

Specimens were exhibited of several hitherto undescribed *Cowries*, most of which have been brought to England within the last few years. They were accompanied by the following characters and descriptions by J. S. Gaskoin, Esq.

Genus CYPRÆA.

CYPRÆA FORMOSA. *Cypr. testâ ovato-globulosâ, tenui, sericeo-sub-*

nitente, pallidè roseá, subnebulosá, anticè saturatiore, basi albidá; costis numerosis, confertis, continuis, ad basin non interruptis; margine subincrassatá; aperturá latiusculá; lineá dorsali nullá.

Shell ovato-globose, posterior end rather obtuse and broad, of a delicate rose (almost white) colour, somewhat clouded with very light reddish brown, which is deeper over the anterior extremity. Base white, somewhat even. Aperture rather wide: teeth of the lip about twenty-one, almost every alternate rib (about fifteen in number) terminating between the denticulations just before arriving at the edge of the lip; teeth of the *columella* about twenty-five, and about seven terminate exterior to the aperture: columellar front grooved along its entire length, inner edge of the groove slightly serrated, forming a circular projection towards the anterior extremity, where it is deepest and widest. Ribs slightly prominent, numerous, close, extremely even and regular, extending continuously from the lip to the inner border of the columellar groove, very few terminating on the sides of the shell: false ribs few, and extending but little towards the back. Anterior beaks rather wide apart, slightly produced: beaks of the lip longer than those of the *columella.* Spire only traceable in the adult, and in the younger state forming a fine small point or *apex.* Margin only on the lip side, and slightly thickened. No dorsal line.

Length ·425 of an inch; breadth ·350; height ·325.

The younger specimens of this beautiful shell are of a fine clear, semipellucid, rose (almost white) colour, with the light reddish brown markings at the anterior and outer extremity of the shell, and at the point of the posterior beak of the lip, more conspicuous than in the adult, while the cloudings are less observable.

Habitat. Cape of Good Hope.

From *Cypr. Europæa* it is distinguished by the following characters: greater convexity of the curvature of the inner edge of the columellar groove; ribs and teeth much more numerous and even, and on the lip almost every alternate rib terminates before arriving at its edge; shape more gibbous and obtuse posteriorly; mouth wider; spire scarcely visible in the adult, and forming a beautifully minute point in the younger individuals; texture and colour of the shell infinitely more delicate.

Cab. Gaskoin.

CYPRÆA RUBINICOLOR. *Cypr. testá ovato-subglobosá, utrinque subrostratá, rubellá, extremitatibus pulchrè roseo-rubris; labro incrassato, convexo; costis acutis, continuis, indivisis; lineá dorsali nullá.*

Shell ovato-globose, of a light red or pinkish colour; the four beaks, particularly on the base, of a much deeper red. Base roundish. Aperture and margins lighter coloured. Margins thickened, somewhat produced, in short, rather broad beaks. Aperture rather narrow, and inner edge of the lip nearly circular. *Columella* somewhat ventricose towards the middle, concave towards the anterior end: teeth numerous and even; on the lip about twenty, proceeding across the back, forming ribs, and continuing over the *columella,* pass through the frontal groove, converging towards the middle, and terminating at its inner border in a very slightly curved serrated edge; one or two ribs terminate near the middle of the back. False ribs few, and terminating in teeth only between the beaks. No dorsal line.

Length ·475 of an inch; breadth ·400; height ·250.

Habitat.

Its distinctive characters from *Cypr. sanguinea* are: teeth much more numerous and even; no ribs terminate on the lip, rarely more than one or two on the side of the back, and they are of the colour of the shell; colour much lighter, and the beaks on the base deepest-coloured.

Cab. Gaskoin.

CYPRÆA PRODUCTA. *Cypr. testâ ovato-subglobosâ, basi planulatâ, transversim costatâ, albidâ; marginibus crassiusculis, ad extremitates subdepressis; aperturâ angustiore, labri margine subrectâ, columellæ flexuosâ, acutangulâ; lineâ dorsali nullâ.*

Shell ovato-subglobose, of a uniform dull white colour. Aperture rather narrow: teeth prominent and even, about twenty-six on the lip, and twenty-three on the *columella;* between the beaks there are about five or six rather strongly marked denticulations. The columellar edge of the aperture forms a sharp line, within which is a broad and rather deep groove, extending the length of the mouth, deeper at each end; the ribs, extending through it, form on its inner border a denticulated line, and they are more acutely prominent within the aperture than on the outside of the shell. Ribs prominent, smooth, (interstices uneven,) many terminating on the side of the shell at various distances from the middle of the back, those continuing to the middle about fifteen, a few only of which are continuous down the opposite side, the rest terminating in the centre of the *dorsum* between each other, but not in obtuse or thickened ends: false ribs about six posteriorly and eight anteriorly, and, like those in the *Cypr. sanguinea,* extending high up towards the back. Extremities much produced, somewhat flattened. Margins thick. No impressed dorsal line. Anterior beaks wider apart than the width of the aperture, and within each of these beaks is a slight impression or groove.

Length ·500 of an inch; breadth ·375; height ·300.

Habitat.

It is thus distinguishable from *Cypr. scabriuscula*: it has no dorsal line; ribs much larger and prominent; has wide margins; a broad and flattened base; a slight groove within the anterior beaks; extremities much produced and flattened, &c.

Cab. Gaskoin.

I am indebted for the very appropriate appellation of this species to my friend Mr. Gray.

CYPRÆA CANDIDULA. *Cypr. testâ ovato-globulosâ, latere columellâri subventricoso, niveâ; extremitatibus columellaribus subcompressis; margine subincrassatâ; aperturâ subangustatâ, posticè recurvâ; labri dentibus numerosis confertis; costis ex aperturâ divergentibus; lineâ dorsali nullâ.*

Shell ovato-globose, the columellar side rather ventricose, entirely of a snow-white colour. Base somewhat flat. Aperture rather narrow, curved posteriorly. Columellar groove extending from one end of the shell to the other, rather broad, most so at the anterior extremity, not deep. Teeth even, somewhat numerous, small on the edge of the lip, on which there are about twenty-two; on the *columella* about thirteen, which converge towards the centre. Ribs rather prominent; some few terminate on either side of the shell, the rest pass continuously across it from the edge of the lip, and terminate in minute denticulations at the inner border of the frontal groove: false ribs a few. Anterior and posterior beaks of the *columella* divergent, and slightly projecting: extremities produced, and obtuse: marked denticulations between the anterior beaks. Spire scarcely visible, or forming a small blunt protuberance. No impressed dorsal line. Margin on the lip only and rather thick.

Length ·312 of an inch; breadth ·250; height ·212.

Habitat. Mexico.

Distinguishable from *Cypr. scabriuscula* by the shell being much wider and shorter; aperture more curved; teeth and ribs much fewer; the extremities more obtusely produced, thicker and wider; columellar beaks more divergent and prominent; body of the shell more ventricose; anterior part of the columellar groove not so broad; no impression of a dorsal line.

Cab. Gaskoin.

The propriety of regarding this as a distinct species is confirmed from the coincidence of three persons having done so, without any communication or knowledge of each other, in three distant capitals, viz., Dr. Beck of Copenhagen, by the name of *Cypr. approximans*; M. Duclos at Paris, by that of *Cypr. olorina*; and myself in London, under the appellation of *Cypr. candidula*: and as I believe I am the first to describe it, it is perhaps right that I should retain, and apply to it, my own designation.

CYPRÆA ACUTIDENTATA. *Cypr. testâ candidâ, ovato-globulosâ, utrinque subproductâ; labro incrassato; costis acutis prominentibus, dorsum versus partim interruptis, opacis, interstitiis inæqualibus nitidulis; columellâ convexiusculâ, absque plicâ.*

Shell ovato-globular, white; extremities slightly produced. Aperture narrow, somewhat ventricose at the middle of the *columella*, and a little concave at the anterior end. Teeth numerous, about seventeen, thin, sharp, and prominent, continued to form the ribs, several of which terminate (especially at the outer part of the shell) before arriving at the summit of the back, and the teeth are consequently more numerous on the lip than on the *columella*; a deep depression at each end of the columellar side of the aperture caused by the abrupt termination of the *columella*, it not extending to the extreme ends of the aperture. Ribs rather thick, not crowded, prominent, the interstices between them somewhat shining; observed by a magnifier the ribs appear uneven; false ribs at both extremities, a few only forming teeth. No complete dorsal line, but a faint depression. No depression or groove in front of the *columella*. Columellar side more gibbous than the outer, and the ribs continue entirely round it, converging towards the centre.

Length ·300 of an inch; breadth ·200; height ·175.

Habitat. Isle of Muerte, Bay of Guayaquil.

Nearest in shape to *Cypr. exigua*, and in the manner of the ribs terminating on the back; but it is of a dull white colour, destitute of markings, and has no groove or depression in front of the *columella*, which distinguishes it from all other species of this form of *Cypræa*.

Cab. Cuming.

I had the misfortune to break the only specimen that I have seen of this shell shortly after I had described it, but having submitted the description to the critical examination, with the shell, of Dr. Beck and Mr. Sowerby at the same time, I conclude this description may be received, although I have no specimen to show to the Society.

CYPRÆA PEDICULUS, var. labiosa. *Cypr. testâ ovali, latâ, extremitatibus rotundatis; costis prominentioribus, nullis supra labium externum terminantibus; marginibus latioribus, crassioribus; lineâ dorsali profundiore, fuscâ; basi marginibusque cinerascenti-griseis; dentibus albis.*

Shell oval, of a reddish brown on the back, running into a blueish brown on the sides; six rather large dark brown spots on the back, three on each side the dorsal line, placed opposite to each other at the anterior, middle, and posterior parts of the back; base of a greyish brown colour, rounded and broad. Aperture rather wide, white within: teeth about twenty on the lip, white, prominent, even and distant, and all continuing evenly over the lip forming the ribs, several of which terminate on the side of the shell, the others (about twelve) at the dorsal line, in elevated and broad or thickened ends; on the *columella* there are about fifteen teeth, a few of which, continuing to form the ribs, terminate on the side of the shell, the rest at the dorsal depression, in a similar form to those on the opposite side; there are about two floating ribs, false ribs at each end. Columellar groove very shallow posteriorly, rather deeper and wider anteriorly; the teeth passing, slightly prominent, across it form a serrated edge at its inner border. Margins much thickened and produced, terminating in a coronated ridge all round the shell, scarcely more prominent at the extremities than on the outer or lip side. Extremities round. Dorsal line rather broad, deep, shining, and of a darker brown colour than the back.

Length ·525 of an inch; breadth ·410; height ·320.

Habitat.

Differs from *Cypr. Pediculus* in being broader and shorter, and rounder at the extremities; in the colour and shape of the base; in having much more prominent ribs, and none terminating on the lip; margins infinitely thicker and broader; teeth white; dorsal line more impressed, &c.

Cab. Gaskoin.

This shell having some characters in common with *Cypr. Pediculus*, and as I have seen only this one specimen, I have felt it difficult to separate it entirely from that species; and on the other hand it has characters so different, that I scarcely know how to make it a member of that tribe: I have, however, placed it as Varietas *labiosa*; and should other specimens be found, I think it may be properly severed from its present associates, and retain that distinctive appellation.

CYPRÆA VESICULARIS. *Cypr. testâ inflatâ, subglobulosâ, subtrigonâ, rubellâ; costis transversis, approximatis, lævibus, concoloribus supra columellam continuis; aperturâ amplâ; labro intùs albido, dentato.*

Shell ovato-subglobose, inflated; semipellucid, of a faint rose, or flesh colour. Aperture very broad, a little longer than the spire. Posterior part of the *columella* rather ventricose: the anterior forming a broadish groove, the inner border of which is most prominent at its middle, and the ribs passing through it terminate, at its posterior part, in a serrated edge, the anterior part being even and forming a smooth notch. Lip of a lighter colour than the rest of the shell, straight at its base, longer than the body of the shell, forming a very slight notch as it joins the columellar side at the posterior extremity, and anteriorly a broader and deeper one between the beaks. Beaks very slightly produced, and the anterior ones a little divergent. Teeth numerous and even, about twenty on the lip, and about twenty-three on the *columella*. Ribs even, close, numerous, not prominent, extending transversely across the shell in parallel lines, and passing entirely round the *columella* to its inner margin: about eight of the ribs terminate on the lip, and consequently form no denticulations, and almost alternately between the teeth from the anterior extremity, some few terminate on the outer part of the *columella*. Ribs very faintly marked on the back. No dorsal line. Margin a little thickened. Spire visible, depressed.

Length of the *columella* ·475 of an inch; of the lip ·525; breadth ·450; height ·350.

Habitat. Cape of Good Hope.

From *Cypr. aperta* it differs by the anterior columellar beak being divergent; posterior end of the shell blunter and broader; ribs infinitely more numerous and even, and extending entirely over the *columella* to its inner edge within the aperture.

Cab. Gaskoin.

CYPRÆA BECKII. *Cypr. testâ ovato-oblongâ, utrinque productâ, subrostratâ, subumbilicatâ, supernè pallidè fulvâ, punctis subocellaribus helvolis sparsis; margine suprà subcrenatâ, basique albis; labri dentibus crassiusculis, posteriùs lineolâ helvolâ notatis, columellæ gracilioribus, in culmen rectilineum terminantibus, medio obsoletioribus; sulco columellari profundo, recto, lævi, anteriùs et infernè denticulato.*

Shell ovato-oblong, of a light fawn colour, dotted distantly with minute slightly ocellated reddish brown *puncta*, which are larger near the margins, especially the columellar, mixed with a few exceedingly faint minute spots lighter coloured than the ground. Base nearly white, rather flat. Aperture narrow: *columella* somewhat gibbous at the middle part: teeth, like the base, nearly white, even, not minute, extending half across the lip, on which there are about nineteen, coloured at their edges of a reddish brown colour, forming short lines; teeth of the *columella* about eighteen, forming an angular, slightly elevated, serrated, longitudinal ridge, more prominent at the anterior extremity; at the two extremities the teeth extend a little outwards, and are there marked, as on the lip, by reddish brown little lines. At the anterior portion of the front of the *columella* is a deep elongated groove, terminating outwardly in a deep notch, between the end of the ridge and the beak, with three or four denticulations at its inner border, not extending through it from the ridge. Extremities produced; the beaks divergent; the outer anterior and posterior beaks larger and a little longer than the inner. Internal colour the same as that of the base. Spire a little prominent, with a depression around it superiorly and laterally. Dorsal line almost obsolete.

The young has no markings on the teeth.

Length ·450 of an inch; breadth ·250; height ·175.

Habitat.

Distinguished from *Cypr. Cumingii* by the brown lines or markings on the lips; teeth infinitely less numerous, and larger; dark brown ocellated dots on the back; aperture straighter and wider; shell more elongated and less gibbous; groove nearly around the spire; posterior channel more produced; beaks more equal; lip round; outer edge of the margin crenulated, &c.

Cab. Cuming.

Doctor H. Beck, the learned naturalist of Copenhagen, being at this time in our capital, I have taken advantage of the circumstance to date its period, by placing his name, now, to this new species of *Cypræa.*—J. S. G.

There was read an "Extrait du Quatrième Rapport Annuel sur les Travaux de la Société d'Histoire Naturelle de l'Ile Maurice: par M. Julien Desjardins."

The communications relative to the *Mammalia* read before the Natural History Society of the Mauritius in the fourth year of its existence have comprised an account by the secretary, M. Julien Desjardins, of a *Whale* which he regards as the *Physeter macrocephalus*, Linn., that was cast ashore on an adjoining reef: and some observations by the same author on several of the *Mammalia* of the island, and particularly on the hybernation of the *Tenrec, Centenes spinosus*, Ill.; the lethargy of which animal takes place when the thermometer is not lower than 20° Cent., and even when it marks 26°.

In ornithology M. Desjardins has also been the only contributor. He has described, as new, two *Birds* belonging to the island, and has proposed for them the names of *Charadrius Nesogallicus* and *Scolopax elegans*.

M. Liénard, the elder, has, in the course of the year, described many *Fishes*, including a new species of *Plectropoma*, allied to the *Plectr. melanoleuca*, Cuv. & Val., which is of a uniform brown colour, with all its fins of a still deeper brown, except the pectoral which are orange; on this latter character his specific name is founded: a *Holacanthus*, La Cép., from Batavia, remarkable on account of the numerous sinuous silvery lines which occupy principally the middle of the body; and having also on its face two yellow and two black bands, one of which is ocular: a *Cheilinus*, Cuv.: an *Echeneis*, Linn., furnished, on its suctorial disc, with twenty-five pairs of plates: and a *Muræna*, Thunb., the body of which is of an ebony black, and the dorsal fin yellow; the trivial name being indicative of the latter peculiarity. He has also given some account of a collection of *Fishes* obtained from the western coast of Madagascar, and comprising thirteen species, several of which he regards as new. M. Desjardins has described as the *blue-faced Tetrodon*, a species remarkable for two large blue spots on each side of its face, and having the fin rays as follows; D. 15. A. 12. P. 14. C. 14.: it inhabits the seas adjacent to the Isle of France.

In entomology the only communication made to the Mauritius Society was by M. Goudot, and related to the *Insect* described by Mr. Bennett at the Meeting of the Zoological Society on January 22, 1833, (Proceedings, Part i., p. 12,) under the name of *Aphrophora Goudoti*. The communication made to the Zoological Society, of which a full abstract is given at the page quoted, was apparently identical with that read before the Mauritius Society.

The remaining zoological communication related to the *Intestinal Worms*, and was made by the Secretary. It gave some account of the *Distoma hepaticum*, Cuv., as found in the stomach of a cow; and of the *Cysticercus Cellulosæ*, Brems., existing in innumerable quantities over almost the whole of the head, trunk, and extremities of a sow.

An "Extrait du Cinquième Rapport Annuel" of the same Society, by M. Julien Desjardins, Corr. Memb. Z. S., was also read.

In the year of which the present Report gives an account, M. Desjardins has communicated to the Natural History Society of the Mauritius, a list of several species of *Birds* that are occasional visitors of that island; and has also referred particularly to the *Coturnix Sinensis*, Cuv., and the *Nectarinia Borbonica*, Ill., as stationary in the Mauritius.

M. E. Liénard has brought from the Seychelles a species of *Gecko* of considerable size; which he has described in a communication made to the Society: and M. E. Liénard has placed on record the existence in the adjacent seas of the *Sphargis coriaceus*, Merr.

M. Liénard, the elder, has again made numerous contributions to ichthyology. He has given a detailed description of the *Squalus Vulpes*, Linn.: has described as new a *Trichiurus*, Linn., which he had formerly regarded as the *Trich. lepturus*, Ej., but which has the eye much larger, more numerous *striæ* on the *suboperculum*, and a few more rays in the dorsal fin: and has also described two species of of *Crenilabrus*, Cuv., which he regards as new; one of them has three longitudinal rose-coloured bands on the white ground of the body, others on the dorsal fin, a large blood-red spot on the ventral fins, and D. 12+10. A. 3+11; the other is banded like the preceding, but is deeply rose-coloured on the back and pale yellow below, has a black circle surrounding the base of the pectoral fin, a large red spot above the *anus*, the dorsal and caudal fins red, the anal and ventrals yellow, the pectorals rose-coloured, and D. 12+9. A. 3+11. He has also given a description of a *Muræna*, Thunb., of a very pale olive yellow towards the front and brown towards the tail, and marked on the back by white ocellated spots bordered with brown.

In the same department M. E. Liénard has contributed descriptions, from recent specimens, of several *Serrani* described by Cuvier and M. Valenciennes in their 'Histoire Naturelle des Poissons'; and has also given a description of a *Blennius*, Linn., destitute of appendages on the head. These fishes were observed in a voyage to the Seychelle Islands, whence M. E. Liénard brought back with him to the Mauritius a *Chætodon* of very varied colours, which M. A. Liénard subsequently described under the name of *Chætodon diversicolor.* M. Desjardins has stated, in a note, that the *Mango fish, Polynemus longifilis*, Cuv. & Val., is not found, as had been announced, in the Isle of France. And he adds that he has prepared an alphabetical index to the nine volumes of the 'Histoire Naturelle des Poissons' that had then reached the Mauritius. M. Magon has presented to the Museum of the Society a fragment of a ship's coppered keel pierced by the point of the upper jaw of a *Histiophorus*, Cuv., which still remains infixed in it.

M. Desjardins has contributed the only notices relative to the *Mollusca*, which have consisted of short descriptions of three species belonging to the island: an *Octopus, Oct. arenarius*, Desj., found in the shell of a *Dolium*; a *Pupa*, of a red and yellow colour; and a small species of *Helicina*. He has also ascertained the existence at the Mauritius of the *Tornatella flammea*, Auct.

To the same active member the Mauritius Natural History Society is indebted for the only entomological communication made to it in the fifth year of its existence: it is a detailed description of a large species of *Iulus* brought from the Seychelles, and characterized as the *Iulus Seychellarum*, Desj.

Specimens were exhibited of various *Fishes*, forming part of a collection from Mauritius, presented to the Society by M. Julien Desjardins, and forwarded by him at the same time with the "Rapports de la Société d'Histoire Naturelle de l'Ile Maurice." These were severally brought under the notice of the Meeting by Mr. Bennett, who called particular attention to the following, which he regarded as hitherto undescribed.

APOGON TÆNIOPTERUS. *Ap. altiusculus; fronte latiore: pinnâ dorsali priore maculâ elongatâ obliquâ inter singulos radios,*

secundâ analique vittâ prope basin, ventralibus maculis elongatis inter radios exteriores, caudalisque marginibus, nigris.
D. 7, 1+9. A. 2+8.

ACANTHURUS DESJARDINII. *Ac. pinnis altissimis: capite pectoreque cæruleo? punctatissimis; corpore reliquo lineis plurimis (cæruleis? flavis?) inter se sæpissimè fascias nigras includentibus, in pinnas verticales excurrentibus, ibique ad formam pinnæ rotundatis; pinnis anali dorsalique anticè ad basin guttulatis; caudali pallidè per series irregulares punctatâ.*
D. 3+29. A. 3+23.
Dentes maxillæ superioris serrati, elongato-trigoni, ad apicem subrotundati; inferioris crenati, serrâ intermediâ elongatâ.

The peculiarities of the colouring of this *Fish*, Mr. Bennett stated, induced him to regard it as distinct from those figured under the name of *Ac. velifer* by Bloch and by Dr. Rüppell; which also he considered, on a comparison of the figures published by those authors, to be specifically different from each other, and distinguishable by the subjoined characters.

ACANTHURUS RUPPELII. *Ac. pinnis altissimis: capite pectoreque albido punctulatissimis; corpore reliquo infernè flavo guttato, supernè flavo transversim lineato lineis inter se sæpissimè fascias abbreviatas nigras includentibus; pinnis dorsali analique lineis incurvis plurimis illâque anticè guttis sparsis flavis notatis; caudali punctulis albidis per series verticalibus dispositis.*
"D. 3+29. A. 2+23."
Acanthurus velifer, *Rüpp., Zool. Atlas zu Nord-Afrik. Reise, tab.* xv. *f.* 2.
Hab. "in Mari Rubro."

ACANTHURUS BLOCHII. *Ac. pinnis altissimis: capite flavo punctato; corpore toto lineis albescentibus fascias saturatiores inter se sæpissimè includentibus transversim notato, lineis in pinnas verticales excurrentibus ibique per series incurvas guttarum cærulearum dispositis; pinnâ caudali fasciatâ seriatimque punctulatâ.*
"D. 3+28. A. 2+21."
Acanthurus velifer, *Bloch, Ichth., tab.* 427. *f.* 1.
Dentes maxillæ superioris serrati, acutè elongato-trigoni.
Hab. "apud Tranquebariam."

LABRUS SPILONOTUS. *Labr. pinnâ caudali sublunatâ: maculâ in initio pinnæ dorsalis alterâque ad ejus finem maximâ, laterali, caudam supernè circumdante; pinnis dorsali analique ad basin squamis corpori conformibus vittatim vestitis.*
D. 12+10. A. 3+12.
Labro rubro-lineato, Comm., ut videtur, maximè affinis, et forsan idem. Dentes antici validi in utrâque maxillâ quatuor: superioris subæquales, distantes; inferioris duo intermedii minores subapproximati, inter intermedios maxillæ superioris (ore clauso) recepti, lateralis utrinque major ante lateralem maxillæ superioris (ore clauso) recepto.

ANAMPSES LINEOLATUS. *An. capite corporeque crassis, illo anticè subrotundato, hoc cæruleo? lineolato; fasciâ lineâque inter oculos notatus; pinnis dorsali analique cæruleo? marginatis, hâc insuper in medio vittatâ.*

D. 9+12. A. 3+12.

Ab *An. cæruleo-punctato*, Rupp., differt corpore et præsertim capite crassioribus, hoc anticè os versus minus producto; necnon picturâ, præsertim vittâ pinnæ analis. In *An. cæruleo-punctato* squamæ singulæ punctum, in *An. lineolato* lineolam corpori transversam gerunt. In hoc caput, nisi ad frontem labiaque, vix notatum; pinnaque caudalis, ut videtur, æquè haud notata.

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The names of New Species and of Species newly characterized are printed in Roman Characters: those of Species previously known, but respecting which novel information is given, in *Italics*: those of Species respecting which Anatomical Observations are made, in CAPITALS.

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